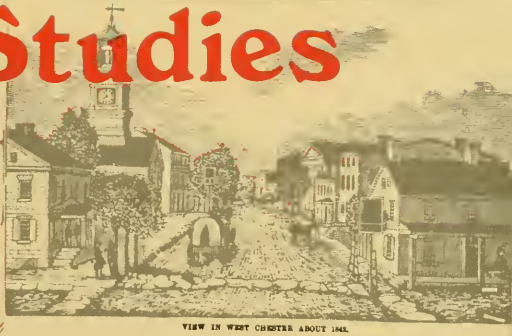
BROOKS

Graduate Studies

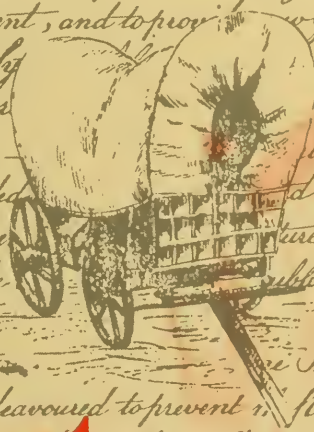
1976 - 1977

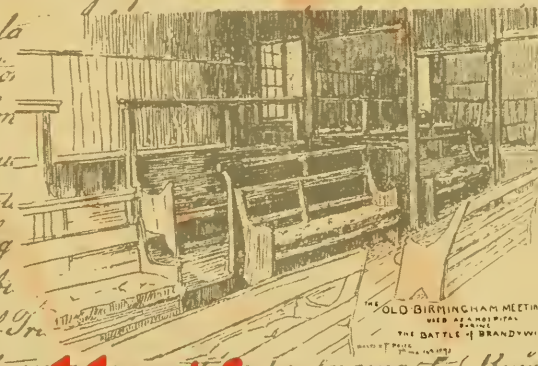
The Hexagonal Schoolhouse c.1837, Caln Township, Pennsylvania



VIEW IN WEST CHESTER ABOUT 1843.

WASHINGTON'S HEADQUARTERS AT VALLEY FORGE.





OLD BIRMINGHAM MEETING HOUSE AFTER THE BATTLE OF BRANDYWINE

West Chester State College Bulletin

Graduate Academic Calendar

FALL SEMESTER 1975

Classes begin	September 3 (Wednesday)
Thanksgiving Recess begins	November 26 (Wednesday) as classes end
Thanksgiving Recess ends	December 1 (Monday)
December Commencement	December 20 (Saturday)
Fall Semester ends	December 23 (Tuesday) as classes end

SPRING SEMESTER 1976

Classes begin	January 12 (Monday)
Spring Recess begins	March 5 (Friday) as classes end
Spring Recess ends	March 15 (Monday)
Easter Vacation begins	April 15 (Thursday) as classes end
Easter Vacation ends	April 26 (Monday)
Spring Semester ends	May 14 (Friday)
Alumni Day	May 15 (Saturday)
Commencement	May 15 (Saturday)

SUMMER SESSIONS 1976

PRE SESSION:	June 7 (Monday) through June 25 (Friday)
REGULAR SESSION:	June 28 (Monday) through August 6 (Friday)
POST SESSION:	August 9 (Monday) through August 27 (Friday)

The College reserves the right to change its calendar if this becomes necessary.
The academic calendar for 1976-1977 will be posted on the Graduate Office bulletin board in Spring 1976.

Our Bicentennial cover strays into the early 19th century in order to include the Caln Township hexagonal schoolhouse and West Chester's High Street and Courthouse, all integral parts of a heritage treasured at the College and throughout Chester County. The College thanks Dennis T. Minch, the artist, for permission to reproduce his "Dilworthtown Oak" and the Chester County Historical Society for allowing us to reproduce certain prints. The clock was once Benjamin Franklin's. Now it belongs to the College.

West Chester State
College Bulletin
1976/1977
Graduate Studies
Volume 103 Number 6 October 1975
West Chester, Pennsylvania 19380

West Chester State College is accredited by The Middle States Association of Colleges and Secondary Schools, The National Council for Accreditation of Teacher Education, The American Association for Health, Physical Education, and Recreation, The National Association of Schools of Music, The Council on Social Work Education, and The American Chemical Society.

West Chester State College is a member of The Council of Graduate Schools in the United States.

This Bulletin is not to be regarded as an irrevocable contract between the student and West Chester State College.

OFFICE OF GRADUATE STUDIES

Room 205 — Administration Building

Telephones: Area Code 215
436-2243 436-2943
436-2659

WEST CHESTER STATE COLLEGE BULLETIN

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Graduate Programs at West Chester

CERTIFICATION AND/OR MASTER OF EDUCATION

Biology
Counselor Education*
  Elementary School Counseling
  Secondary School Counseling
Driver Education and
  Safe Living**
Elementary Education
English
French
Geography
German
Health and Physical
  Education
Instructional Media
  Education
Latin
Mathematics
Reading
Secondary
  Education
Social Science
  Concentrations in:
  Anthropology-
    Sociology
  Geography
  History
  Political Science
  Psychology
Spanish
Special Education:
  Teaching the
  Emotionally
  Disturbed**
  (Offered periodically, as announced)

MASTER OF ARTS

Biology
English
French
Geography
History
Mathematics
  Options in:
  Pure Mathematics
  Mathematics Education
  Applied Computer Science
Music
Philosophy
Physical
  Science
Psychology
Social Science
  Concentrations in:
  Anthropology-
    Sociology
  Geography
  History
  Political Science
  Psychology
Spanish
Speech Pathology
Teaching English
  as a Second
  Language

MASTER OF MUSIC

Music Education
Music Theory or
  Composition
Performance

MASTER OF SCIENCE

Chemistry
Counselor Education
  Higher Education Counseling
  Community Counseling
  Criminal Justice***
Educational Research
Health and Physical
  Education
Instructional Media

*At West Chester State College, the master's degree is required for those seeking certification in Counselor Education.
**Certification only.
***Pending Pennsylvania Department of Education approval.

Graduate Studies at West Chester

Objectives: West Chester is committed to broadening the scholarship of the graduate student and the professional skills of the educator while arousing all students to the challenge of research.

THE GRADUATE STUDIES PROGRAM at West Chester has grown remarkably since its introduction in 1959. About 1,900 students now attend during the fall and spring semesters; some 3,000 enroll for its summer sessions. West Chester State College's graduate program is the largest within the 14 Commonwealth-owned institutions of higher learning.

The College began as the West Chester Academy in 1812 and functioned as a normal school from 1871-1927. Since it became a four-year college in 1927, West Chester has developed steadily and is now one of the major comprehensive colleges in the vicinity of Philadelphia.

It's facilities for graduate education are excellent thanks mainly to the Commonwealth's building program begun in the 1950's and still underway. Examples are the Schmucker Science Center, a block-long complex of buildings including a planetarium, astronomical observatory, television studio, and modern laboratories; Elsie O. Bull Learning Research Center; the Health and Physical Education Center, one of the nation's outstanding research facilities in the field; and the Francis Harvey Green Library, which is one of Pennsylvania's principal college libraries.

The College offers the Master of Arts, the Master of Education, the Master of Music, and the Master of Science degrees in nearly forty disciplines or areas of study. (See the chart facing this page.)

Many of the master's degree programs such as the new M.S. in counseling for community agencies, the new M.A. in speech pathology, and the new computer science option in the M.A. in mathematics have been designed to meet the particular needs of the times and the area. Approval by the Pennsylvania Department of Education is expected shortly for a program leading to the M.S. in criminal justice. M.S. and M.Ed. programs in health education will be offered this year.

Along with its degree and certification programs, West Chester offers non-degree study in a number of areas including art, eco-

nomics, nursing, linguistics, speech communication, theatre arts, special education, and urban education.

For the benefit of in-service teachers and employed persons, West Chester schedules its graduate classes for late afternoons and evenings during the fall and spring semesters and during the first of the three summer sessions.

Graduate Summer Sessions

The 12-week summer sessions are divided into three periods: the Pre-Session of three weeks, the Regular Session of six weeks, and the Post Session of three weeks. All Pre-Session classes meet in the evenings; almost all classes for the other two sessions meet during the daytime. (To apply, see Admissions)—Admission to a summer session does not constitute admission to a degree program.

The Campus

The College occupies 385 acres in the beautiful rolling countryside of Chester County. The main campus of the college occupies 94 acres within the Borough of West Chester; South Campus is located on a 291-acre tract in adjacent townships.

The Borough of West Chester has been the seat of government in Chester County since 1786. With a population of about 20,000, the Borough proper is small enough to have the pleasant aspects of a tree-shaded American town, large enough to provide essential services and the substance of a vigorous community, and old enough to give the student first-hand touch with America's early history.

The heart of West Chester is its courthouse, a Classical Revival building designed in the 1840's by Thomas U. Walter, one of the architects for the Capitol in Washington, D.C. The town was settled in the early eighteenth century principally by members of the Society of Friends; charming traces of their culture remain in the community.

West Chester today is part of the rapidly growing suburban complex surrounding Philadelphia and offers interesting opportunities for the study of local, county, and regional government in a period of change and growth.

Philadelphia is 25 miles to the east and Wilmington 15 miles to the south of the campus. Thus the libraries, museums, and other cultural and historical resources of both cities are within easy reach. Valley Forge, the Brandywine Battlefield, Longwood Gardens, and other historical attractions are near West Chester.

How to Reach West Chester

ROUTE 3 (West Chester Pike) from Philadelphia.
ROUTE 100 SOUTH from Downingtown Interchange of Pennsylvania Turnpike.
ROUTE 202 SOUTH from Valley Forge Interchange of Pennsylvania Turnpike.
SEPTA BUSES from 69th Street Terminal in Philadelphia.
PENN CENTRAL RAILROAD from Philadelphia to West Chester (limited schedule).

Undergraduate Studies

Some 6,000 full-time and another thousand part-time students are enrolled in the College's undergraduate program. The College grants the Bachelor of Science in Education in four basic curricula—elementary education, secondary education, music education and in the speech pathology and audiology area of special education; the Bachelor of Arts degree in arts and letters, social and behavioral sciences, the natural sciences, mathematics and music; the Bachelor of Science degree in chemistry; and the Bachelor of Music degree.

Degree programs preparing students for specialized work in business administration, computer and information sciences, criminal justice, nursing, social welfare, and speech pathology and audiology are offered.

The Admissions Office will supply an undergraduate catalogue upon request.

Admission

West Chester State College welcomes all qualified students and is committed to affirmative action to assure equal opportunity for all persons regardless of race, color, religion, national origin, sex, age, or the existence of physical handicap.

Students with a bachelor's degree from an accredited college or university in the United States or with equivalent preparation attained in another country are eligible to apply for admission as **degree** or **non-degree** students. **Non-degree** students include those seeking certification, cultural growth, or strengthened backgrounds for various professional and industrial occupations.

The College is primarily committed to meeting the educational needs of Pennsylvania residents. If space is available, well-qualified out-of-state students are considered for admission.

The Application Procedure

1. An application form must be secured from the Graduate Office, completed, and returned to the Graduate Office.

2. Applicants must request all institutions at which they have taken any undergraduate work to submit two official transcripts directly to the Graduate Office. The transcripts must show the complete undergraduate cumulative index. Transcripts mailed or delivered by applicants are not acceptable.

3. Applicants who have done graduate work at another college or university must ask that institution to send two official transcripts to the Graduate Office.

4. A small photograph is required prior to registration.

5. Applicants who have unusual problems or questions are advised to request an interview with the Dean of Graduate Studies.

Application Dealine. The application procedure should be started at least two months before registration for the semester or summer session in which the student wishes to enroll.

Notification of Admission. Applicants will be notified by letter of the acceptance or rejection of their applications.

Registration. Those who have been accepted as graduate students will receive registration instruction by mail prior to each semester and the summer session.

Admission Requirements for Degree Students

1. A baccalaureate degree from a college or university accredited in the United States or its equivalent from a school in another country.

2. A cumulative average of at least 2.50 and a grade of at least 2.75 in the area of concentration. (A equaling 4)

3. Scores from the Graduate Record Examination or the Miller Analogies Test if these are required for admission to the program in which the student wishes to enroll.

4. Approval by the School offering the desired degree program. Before such approval is given, an interview with a faculty member of the School is required. *(The applicant must arrange for this interview.)*

5. Approval by the Dean of Graduate Studies.

6. Space available in the department.

An applicant who meets the grade requirements but has academic deficiencies may be granted *provisional* status. The department chairman or school coordinator will specify course work which must be taken to remove such deficiencies which will not be credited to degree requirements.

Admission to degree study does not constitute admission to degreee candidacy. After a student has satisfactorily fulfilled certain course requirements specified in the degree program and not more than 15 semester hours of work, the student applies for admission to degree candidacy.

Admission Requirements for Non-Degree Students

1. A baccalaureate degree from a college or university accredited in the United States or its equivalent from a school in another country.

2. A cumulative academic average of 2.0 (with A equaling 4).

3. A properly completed application form approved by the department in which the student expects to enroll.

4. An interview with a School official if special questions arise during the evaluation of the application.

Admission is dependent upon the availablity of space in the desired department or program of study.

Those admitted as non-degree students may include applicants

who fail to qualify as degree students. There is no assurance that courses taken under non-degree status may be used later to satisfy degree requirements.

Auditors. An auditor is a student who attends classes but who does not necessarily do other work required of students in the course. The auditor need not meet normal admission requirements but must obtain approval to audit from the department chairman or program coordinator and the course professor. Auditors pay the regular basic fee and must file the usual formal application for admission to graduate studies at the College. The student cannot receive credit for courses taken as an auditor.

Transfer of Credit

Applicants to a degree program at West Chester who have earned credits through previous graduate study at another college or university may transfer credit under certain circumstances.

1. The credits must have been earned in residence at an approved graduate school.

2. The courses taken must be essentially the same as courses offered at West Chester and must be approved by the department or School in which the applicant intends to enroll at West Chester.

3. No more than six credits may be transferred.

4. The grade earned for courses to be transferred must be B or better. (A equals 4).

5. Two official transcripts must be submitted. These must be sent by the institution which granted the credits directly to the Office of Graduate Studies, and they must clearly indicate that the courses to be transferred are graduate courses which were given graduate credit.

6. Credits received on continuing-education or undergraduate transcripts do not qualify for graduate transfer credit.

7. The courses for transfer must have been taken recently enough to fall within the six-year time limitation.

Admission of Foreign Students

Students from foreign countries may be admitted to the graduate program provided they meet certain special requirements. Foreign students, like other out-of-state students, are accepted only when space is available.

All applications and supporting documents must be on file in the Graduate Office no less than four months before the student proposes to enter the country.

The Graduate Office must receive evidence of satisfactory performance on the Test of English as a Foreign Language (unless English is the applicant's native language) before application forms will be sent. Information about the **TOEFL** test, including test dates and locations in foreign countries, can be obtained from the Educational Testing Service, Box 899, Princeton, N.J. 08540, U.S.A. Registration forms must reach Princeton at least five weeks before the test is to be taken.

The information and documents which must be presented are:

1. A completed application form.

2. An official copy of the intermediate school certificate, showing the date issued.

3. An official listing of all courses taken after receiving the intermediate school certificate. This list must show the credits, class hours, laboratory hours, and the year each course was taken.

4. Written evidence, furnished by a responsible reference, that the student has adequate financial resources to undertake and continue a program of study.

After the application and supporting documents have been reviewed, the Graduate Office will notify the applicant of its action. Foreign students are urged to remain in their own countries until they have received notice of acceptance. The College cannot assume responsibility for their housing or welfare. Once a foreign student has been admitted, College authorities will make every reasonable effort to find suitable housing, but—except during summer sessions—West Chester does not provide dormitory accommodations for graduate students and cannot guarantee a place of residence.

Admission of Students with a Master's Degree

A student with a master's degree from an approved institution may be admitted to West Chester for further work if the student files an application and provides a letter from the institution confirming that the degree has been awarded.

Degree Candidacy and Degree Requirements

Requirements for Admission to Degree Candidacy

Application for degree candidacy must be made within the first 15 semester hours of the pre-candidacy period.

During the pre-candidacy period the student must:

1. Complete those courses which the department or program specifies as prerequisite to degree candidacy.
2. Perform satisfactorily on examinations which the department or program may require for admission to degree candidacy.
3. Maintain an overall average of at least 2.75 and an average of at least 3.00 in the concentration.
4. Show evidence of academic, personal, and professional qualities which satisfy the administrators of the graduate program.

Procedure for Application to Degree Candidacy

1. The student must file an application for admission to degree candidacy with the Dean of Graduate Studies and pay the Application to Degree Candidacy fee. Forms are available in the Graduate Office. See "Fees and Expenses."
2. When the application has been evaluated by the department, program or School concerned, the Dean of Graduate Studies will send a letter of acceptance or rejection to the student.
3. Upon notice of acceptance, degree candidates must confer with their advisors to establish a program of study.

Reapplication for Degree Candidacy

Applicants who fail to qualify as degree candidates may reapply. They must attain an average of 3.00 in course work *specified by their department chairman or coordinator.*

Retention in a Degree Program

The record of a student whose grade point average falls below

3.0 in his major field and 2.75 overall after acceptance to degree candidacy, will be reviewed by the department advisor. If, after 24 hours of work in a degree program, the student's grade point average is still below a 3.0 in the major field and 2.75 overall, the student will be dropped from the program. An appeal for readmission may be made to the Dean of Graduate Studies.

Summary of Requirements for the Master's Degree

1. Admission to degree candidacy.
2. Completion of all required courses with a cumulative average of 2.75, an average of 3.00 in the field of specialization, and achievement of satisfactory scores on the Graduate Record Examination, if required, or the Miller Analogies Test, if required. (See program requirements.)
3. Satisfactory performance on a final written and/or oral comprehensive examination conducted by the student's advisory committee in the field of specialization. (It is the responsibility of the candidate to apply for this examination.)
4. Fulfillment of the residence requirement.
5. Submission and approval of the thesis in those programs requiring it.
6. Fulfillment of any special examinations, requirements, or competencies which are peculiar to a department or a School.
7. Fulfillment of all financial obligations to the College, including payment of the graduation fee; and of all other obligations including the return of College property.
8. Compliance with all academic requests from the Dean of Graduate Studies, including submission of a Letter of Intent to Graduate by the specified due date.

Additional Requirements for the Master of Education Degree

In addition to fulfulling these requirements, candidates for the Master of Education degree must give evidence of successful teaching experience approved by the department chairman. Other experiences in lieu of this requirement must be approved by the Dean of Graduate Studies.*

*Does not apply to the degree-certification programs in Counselor Education.

Fees and Expenses

Fees and Expenses are subject to change without notice.

Unless otherwise specified, fees are paid by check or money order payable to: Commonwealth of Pennsylvania. Your canceled check or money order record serves as your receipt.

BASIC FEE

(as of Fall Semester 1975)

Legal Residents of Pennsylvania

Less than 9 credits	$43 per semester hour of credit
9 through 15 credits	$400 per semester
More than 15 credits	$400 plus $43 for each semester hour of credit beyond 15

Out-of-State Students

Less than 9 credits	$80 per semester hour of credit
9 through 15 credits	$750 per semester
More than 15 credits	$750 plus $80 for each semester hour of credit beyond 15

LATE REGISTRATION FEE

A late registration fee of $25.00 is required of students completing registration after the official registration deadline.

COMMUNITY CENTER FEE

Students pay a Community Center Fee based on the number of credits carried, as follows:

1 through 6 credits	$2.50 per semester
7 through 9 credits	$5.00 per semester
10 credits or more	$10.00 per semester

The Community Center Fee is not refundable.

HOUSING FEE (Summer Sessions Only)

The housing fee for resident students is $156 for the Regular Session and $78 for the Pre or Post Session. The fee covers accommodations in a double room in one of the College residence halls and meals in the dining hall in Lawrence Center. A private room is $2 additional per week. (Housing for graduate students is not available during fall and spring semesters.)

APPLICATION TO DEGREE CANDIDACY FEE

When degree students file applications for admission to degree candidacy with the dean of Graduate Studies, they must pay the Application to Degree Candidacy fee of $10.00. The fee must be paid at the Office of Business Affairs by cashier's check or money order (not personal check).

This fee is not refundable under any circumstance.

AUDITOR FEES

Students who audit a course (attend a course without taking credit) pay the same fees as other students.

TRANSCRIPT FEE

The transcript fee is $1.00 per transcript. West Chester students receive their first set of transcripts at no charge but they pay the fee thereafter.

MUSIC FEES

In addition to the basic fee, graduate students in music are billed according to the following fee schedule:

Piano, Organ, Instrument, or Voice—one half-hour lesson each week	$55 per semester
Instrument Class or Ensemble—2 hours per week	$35 per semester

Rentals

Any Band or Orchestra Instrument	$6.00 per semester
	$1.00 per week in summer sessions
Organ ($12.00 per semester)	$2.00 per week in summer sessions.

POLICIES ON REPAYMENT AND REFUNDS

1. Students who wish to withdraw from the College after paying their semester or summer session fees must follow the official withdrawal procedure. Forms available at the Graduate Office should be completed and returned to that office during that semester or session.

2. During the fall and spring semesters, a student who registers for a course and then withdraws before the second scheduled class meeting, may be eligible, upon application, to receive a refund of all but $10.00.

3. During the summer sessions, a student who registers for a course and then withdraws before attending any scheduled class meeting, may be eligible, upon application, to receive a refund of all but $10.00.

4. A student who withdraws from a course, for approved reasons, before one-third of the scheduled class periods of a semester or summer session have been completed, may be eligible for a refund of one-half of the fee paid.

5. No portion of the basic fee shall be refunded after one-third of the class periods scheduled during a given semester or summer session have been completed. Exceptions are made in cases of personal illness, certified by the attending physician. In such a case, the College will refund the proportion of the basic fee covering the part of the semester or summer session which the student does not spend in the College.

6. In all cases, students who are eligible for a refund must make their request to the Director of Business Affairs in writing during the semester or particular summer session to which the refund applies.

7. Refunds will not be made to students who are suspended or dismissed or who drop courses without the approval of the Dean of Graduate Studies.

GRADUATION FEE

A graduation fee of $15 is required of all degree candidates. No degree will be granted until this fee is paid. Checks should be drawn to "Graduate Commencement Fund" and delivered to the Graduate Office on or before the due date.

IGA STUDENT FEE

Graduate students carrying at least 9 credits pay the Intracollegiate Governmental Association (IGA) student fee of $34 per semester. Bills for this fee are mailed by IGA to students and are due upon receipt. The fee admits students to extra-curricular

and co-curricular activities as well as athletic, cultural, and social events on student status. It also helps to defray the cost of administering the IGA Business Office, athletics, recreation, social programs, and related student affairs. Part-time students who wish to participate in the program during the fall or spring semester may do so by paying the student fee.

Both part-time and full-time students are required to pay the fee for all summer sessions they attend. The fee is:

$4.00 for the Regular Session
$2.00 for the Pre or Post Session

Make checks payable to: Intracollegiate Governmental Association.

VEHICLE PERMIT

(Cash or check drawn to Intracollegiate Governmental Association)

Students who wish to park their vehicles in campus lots are required to have a vehicle permit, which may be obtained at registration. The owner's registration card for the vehicle must be presented. The cost of the permit for a full year is $2.00 for Pre or Regular Session, $1.00, for Post Session, 50¢. All permits expire in the September following month of issue.

LIBRARY CARD/I.D. CARD

In order to borrow books from the library, graduate students must present identification, either a Library Card or an I.D. (Identification) Card. The fee for either card is $1.00. The I.D. card is purchased at the IGA Office, the Library Card at the library.

Financial Aid

LOANS

National Direct Student Loan Program

The National Direct Student Loan Program is a cooperative effort of the federal government and West Chester State College which enables qualified students to secure long-term educational loans under attractive conditions. The law requires that each borrower be:

1. Enrolled or accepted in the institution participating in the Program.

2. Carrying at least 1/2 the normal full-time workload as determined by the institution.

3. In need of the amount of the loan to pursue a course of study.

4. Capable, in the institution's opinion, of maintaining good standing in the curriculum.

Under the law, a graduate student may borrow up to $2,500 per year, with the combined total of undergraduate/graduate loans not to exceed $10,000. Approval of loans depends upon the student's financial need and the availability of loan funds. For further information contact the Director of Financial Aid.

Pennsylvania Higher Education Assistance Agency Loan Guaranty Program

The Student Loan Guaranty Program is a cooperative effort of private lending institutions and the state and federal governments which enables qualified students to secure long-term educational loans under attractive conditions. To be eligible for a loan, a student must:

1. Be a domiciliary of Pennsylvania for 30 days immediately prior to the date of filing a loan guaranty application.

2. Be accepted for enrollment in an approved institution or, if enrolled, be in good standing.

3. Meet satisfactory character requirements and citizenship requirements.

4. Be classified as at least a half-time student.

The maximum loan per academic grade level for full-time graduate students is $2,500; for half-time graduate students, $1,250. The total indebtedness permissible for all years of undergraduate and graduate study is $10,000. For further information contact the Director of Financial Aid.

GRADUATE ASSISTANTSHIPS

A number of graduate assistantships are available to qualified

graduate students. Interested students are advised to consult their School Deans or the Dean of Graduate Studies to determine the availability of assistantships and the candidate's eligibility for assignments, which may involve part-time undergraduate teaching, participation in research projects, or other professional duties.

Beginning graduate assistants are paid at the rate of $2,705 for the academic year, and course fees are waived.

RESIDENT DIRECTORS

Opportunities to serve as resident directors for undergraduate students are open to men and women graduate students. Directors live in the College residence halls and provide direction for the personal, social, and educational development of the resident students. These positions are funded through the Civil Service program. Remuneration also includes room and board. Applications can be made through the Office of Student Development, Room 206, College Union Building. (Telephone 436-3305.)

Academic Information and Regulations

See also Degree Candidacy and Degree Requirements

Classification of Students

Students are classified as:

A. Degree Students

1. Full graduate standing—granted to a student who meets all admissions requirements.

2. Provisional graduate standing—may be granted to a student who:
   a. Has not taken the Graduate Record Examination, the Miller Anadogies Test, or a specialized entrance examination as required by the department concerned.

   b. Is unable to present all prerequisites required by the department of specialization.

   c. Has certain other academic deficiencies.

   d. Fails to meet the academic average required for a degree student.

B. Non-Degree Students

1. Certification—applies to students taking course work to gain teacher certification (for Level II only).

2. Professional growth—students who take graduate course work but seek neither a degree nor certification.

Advisory System

All students will be assigned an advisor in the department of their choice. Students are expected to take the initiative in scheduling interviews with their advisors during their course of study.

Time Limitations on Degree Programs

All degree requirements must be satisfied within six consecutive years from the date of admission. This limitation also applies to courses taken elsewhere and accepted at West Chester as transfer credit applying to degree requirements.

In unusual cases, such as military service or prolonged illness,

a limited extension of time may be sought by written petition to the Dean of Graduate Studies.

Students are reminded that all details concerning their research report or thesis must be completed within the six-year limitation.

Re-Examination Policy for Students Who Exceed the Time Limitation

Students who wish to re-enter a degree program after losing their status by failing to stay within the time limitation may regain credits toward the degree by re-examination. Such students should consult with the Dean of Graduate Studies to obtain permission for re-examination.

Residence Requirement

To meet minimum residence requirements, students must attend West Chester as full-time students during a fall or spring semester or during a Regular Summer session.

Student Load

The normal work load for a full-time student during the fall and spring semesters is 9 semester hours. The load may be increased if approval has been obtained from the student's advisor.

During the summer session, the normal work load is one semester hour of work for each week of enrollment. Generally, students carry only one course during the Pre or Post Session. If permission has been given by the Dean of Graduate Studies, students may carry more than six semester hours of work in the Regular Session.

Policy on Undergraduate-Level Courses

Graduate students may take certain undergraduate courses for credit toward the master's degree. The following provisions apply:

1. Written permission must be obtained from (a) the department chairman, (b) the Associate Dean for Graduate Studies or the School Dean in Schools having no Associate Dean, and (c) the Dean of Graduate Studies.

2. No more than six semester hours of undergraduate course work may be applied toward the degree.

3. The undergraduate course must be taken at West Chester State College.

Degree students should consult their advisors to determine which undergraduate courses have been approved for graduate credit.

Course Credit by Examination
A graduate student may obtain course credit through examination. Application must be made through the Graduate Office, and the student's advisor must approve the application.

Transferring Credit from Other Institutions
West Chester students who wish to take course work at other institutions for credit at West Chester must first obtain approval from their chairman or coordinator. Other restrictions and requirements are the same as those given in "Transfer of Credit," page 7.

Change of Status
A provisional degree student may petition for full graduate standing by making a written request to the Graduate Office. Credit earned as a provisional degree student or as a non-degree student may be accepted in a degree program only upon the recommendation of the student's advisor. Provisional degree students should consult their advisors well in advance in order to select work appropriate for transfer toward the degree.

Changing to Auditor Status
Before the sixth meeting of a class during a semester or an equivalent period of time during summer sessions, a student may apply to become an auditor by completing a change-in-class-status form available in the Graduate Office and obtaining necessary approval.

Changes in Program

In order to change from one program to another, the student must:

1. Obtain a change-in-curriculum form from the Graduate Office.

2. Have the form signed by the two chairmen or program coordinators and the two Deans (or Associate Deans for Graduate Study) concerned in the program change.

3. Present the completed form to the Graduate Office which will notify the applicant in writing of the action taken on the request.

Withdrawal from Courses in Fall or Spring Semesters

A student finding it necessary to withdraw from a course should:

1. Obtain a withdrawal form from the Graduate Office.

2. Obtain signatures of the course professor, the department chairman or program coordinator, and the School Dean or the Associate Dean for Graduate Studies.

3. Return the signed form to the Graduate Office before the end of that semester.

Students who drop a course—either before or after six class meetings—without following the course-withdrawal procedure will receive an F on their permanent records and will forfeit any right they may have had to a refund.

If a student withdraws before the sixth meeting of a class, the withdrawal will be viewed as a cancellation of enrollment, and the course will not be entered on the student's academic record. The student is entitled to a refund. See Fees and Expenses.

A student who attends six or more meetings of the class will not be eligible for a refund, and the course will be entered on the student's permanent grade record, either as a WP, or as a WF.

Withdrawal from Courses in Summer Sessions

Students who have attended one day of classes during any summer session may not cancel enrollment and are not entitled to a refund. Students who stop attending classes in which they are enrolled will receive a WP or WF for the course.

In order to withdraw officially from summer session classes, a student must submit a completed summer session withdrawal form to the Graduate Office.

Withdrawal from the College

A student intending to withdraw completely from the graduate program must comply with the procedures outlined under "Withdrawal from Courses in Fall and Spring Semester" (above) and, in addition, give the Dean of Graduate Studies written notice stating the reason for the withdrawal. The student's last day in classes will be considered the student's termination date.

Class Attendance

Absence from classes does not exempt the student from course responsibility. If an examination is missed, the student must arrange promptly with his professor for a make-up examination.

Attendance in Inclement Weather

Although the College generally convenes classes regardless of weather condition, students are not asked to drive on hazardous roads. However, they must assume responsibility for work missed. See College Policy for Storm Closings, Page 28 for system of announcing College closings.

Grading System

The following grading system is used:

Grade	Interpretation	Quality Points
A	Superior	4
B	Above Average	3
C	Average	2
D	Below Average (see below)	1
F	Failure	0
I	Incomplete (see below)	
WF	Withdrew Failing	0
WP	Withdrew Passing	
Aud	Audit	

Degree students must repeat any required course for which they have received a D or F grade. All grades received for a course will remain on the student's record, but only the highest grade achieved will be used to calculate the cumulative average. A form for reporting repeated courses must be obtained from the Graduate Office, completed, and returned there.

Removing Incompletes. Students must complete courses for which they have received an Incomplete within the next 90 calendar days or the I will become an F. A student may appeal through the Dean of Graduate Studies for an exception to this time limitation. The 90-day requirement does not apply to the Methods and Materials of Research course nor to the thesis or research report.

Grade Reports. Grade reports are mailed to the student soon after the end of a semester or summer session. Students are reminded to check their reports against grade requirements and other regulatons and to have their reports at hand when consulting with advisors.

Obtaining Transcripts

Transcripts of work taken at West Chester may be obtained from the Office of Scheduling and Academic Records. A check or money order, payable to the Commonwealth of Pennsylvania, must accompany a written request which should indicate the period of attendance at the College, the curriculum pursued, and any change of name during enrollment. For transcript fee, see Fees and Expenses.

Changes in Name or Address

Students should notify the Graduate Office immediately of any change of address or change in name.

Graduate Record Examination

Scores for the Graduate Record Examination are required for

many of the degree programs, either at the time of application or at some later date. The prospective degree student should consult the appropriate program outline.

The Graduate Record Examination is administered by the Educational Testing Service, Box 955 Princeton, New Jersey 08540 and consists of the Aptitude Test (morning test) and the Advanced Tests (afternoon tests in the fields of concentration). Application forms and data may be obtained either by writing directly to the service or from the Graduate Office. Application forms must be filed with the Educational Testing Service at least 15 days prior to the date of any examination.

The examinations may be taken at any of the testing centers designated by the Educational Testing Services. These tests are administered periodically at West Chester—generally in October, December, February, April, and June.

Miller Analogies Test

Some degree programs require students to take the Miller Analogies Test which is administered through the Counseling Center, Room 129, Lawrence Center. It requires less than two hours and is given by appointment. Students requiring the test should telephone the center (436-2301) at least three weeks before a test date is needed. Once a date has been established, the student must pay an $8.00 fee in person to the Office of Business Affairs. The fee receipt must be presented to the center before the M.A.T. will be administered.

Results of the examination will be sent to both the student and the appropriate department or program about 10 days after the test is taken.

The Comprehensive (Area of Specialization) Examination

The comprehensive examination covers the student's major field and is constructed, administered, and evaluated by the faculty of the student's major department or program. Degree candidates must take their comprehensive examination (oral and/or written) upon completion of 28 semester hours of credit. Successful performance on the comprehensive examination is a requirement for all master's degrees granted by the College. The candidate must apply for the examination.

Other Examinations

Other examinations may be required of degree students. All requirements given under the heading of the particular program should be carefully noted.

Research Requirements

Students should consult specific programs to determine whether independent study directed toward either the thesis or a research report is required, offered optionally, or omitted.

Letter of Intent to Graduate

The degree student must file a Letter of Intent to Graduate with the Dean of Graduate Studies and the department chairman or program coordinator on or before the date specified by the Graduate Office.

Submitting the Thesis for Binding

Upon its approval by the School or department, the thesis must be typed in accordance with specifications which may be obtained from the School or department. Three copies of the typed thesis, together with three copies of the abstract (250-500 words) must be submitted to the Graduate Office for binding. Candidates who wish additional bound copies should submit as many copies as are desired. The cost of binding is $6.00 per copy.

Permanent Certification

The Instructional II (Permanent) Certificate shall be a permanent certificate issued to an applicant who has completed three years of satisfactory teaching on an Instructional I Certificate attested to by the superintendent of the school district in which his most recent service was performed, or in the case of an intermediate unit, the executive director, or in the case of an approved non-public school, the chief school administrator. In addition the applicant shall have completed 24 semester hours of collegiate study at an approved four-year institution and subsequent to the conferring of the baccalaureate degree.

IN-SERVICE PROGRAMS. The 24-semester-hour requirement may be satisfied, in whole or in part, through in-service programs approved by the Secretary of Education of the Commonwealth.

Renewal of Instructional I Certification

The Instructional Certificate is valid for three years of teaching in approved schools of the Commonwealth. The three years need not be consecutive. The certificate may be renewed for three additional years of teaching after the completion of 12 additional semester hours of post-baccalaureate, graduate or approved in-service credit. A renewal should be requested through the school superintendent's office.

Educational Specialist Certification

Commonwealth regulations also provide for certification as an educational specialist to those persons who successfully complete an approved program of study and have the recommendation of the training institution. The Educational Specialist Certificate is issued on two levels.

Educational Specialist I (Provisional). The Educational Specialist I Certificate shall be issued for entry into a professional position in the schools of the Commonwealth. The applicant shall have completed an approved program of studies, shall possess a baccalaureate degree, and shall have been recommended for certification by the preparing institution.

Educational Specialist II (Permanent). The Educational Specialist II Certificate shall be a permanent certificate issued to an applicant who shall have completed three years of satisfactory service on an Educational Specialist I Certificate, and who shall have completed 24 semester hours of post-baccalaureate or graduate study at a regionally approved institution. In addition, the applicant shall have received the recommendation of the superintendent of the school district in which his most recent

service was performed, or in the case of an intermediate unit, the executive director, or in the case of an approved non-public school, the chief school administrator.

Cancellation of Courses

The College reserves the right at any time to cancel a course if its enrollment is insufficient.

Student Responsibility

It is the responsibility of the students to know and observe all regulations and procedures for their programs and to read this catalogue thoroughly. The College will not waive a regulation because a student pleads ignorance of it. A student planning to graduate should give careful attention to the dates relating to application for graduation and to other pertinent deadlines announced by the department or the Graduate Office.

College Services and Student Living

The Francis Harvey Green Library offers the graduate student an excellent environment for study and research. The library is presently housed in an attractive modern building completed in 1966. A new six-story addition to the existing building should be ready for occupancy early in 1976. The expanded facility will house one-half million books and will have many features, among them faculty, graduate and undergraduate studies and lounges, a uniquely designed special collections complex, a map room, an enlarged instructional materials center with audio-visual facilities and programmed instruction and expanded periodical facilities.

The general collection of more than 320,000 volumes and subscriptions to more than 2,500 periodicals is augmented by an extensive micromedia collection representing more than 300,000 volumes including books, periodicals, newspapers, and doctoral dissertations. The special collections include the Chester County Collection of Scientific and Historical Books; the Normal Collection (a collection of historical books on physical education and publications by and about the faculty and alumni); the Biographies of the Signers of the Declaration of Independence, by John Sanderson; and the Shakespeare Folios. Other collections of note are the children's curriculum, government documents, and music collections; and the Philips collection of autographed books.

The college library, through its staff of 16 professional librarians provides the informational and bibliographical services required by students and faculty working in all areas covered by the College's instructional programs. To further publicize its services and to add to the cultural enrichment of the students, informative and aesthetic exhibits are displayed in the library throughout the year.

Bureau of Research and Related Services

The Bureau of Research and Related Services fosters the development of basic, applied, and institutional research and provides facilities for the tabulation and analysis of research data. The research function of the Bureau encompasses studies initiated by the faculty and administrative staff as well as cooperative endeavors carried on under the joint sponsorship of the College and various educational agencies and foundations. The Bureau assists faculty and students to secure financial support for their research projects.

A computer center, statistical laboratory, and research facilities are maintained in the Learning Research Center.

Data processing services include the tabulation and summarization of information essential to the operation of the various administrative divisions of the College and the statistical treatment and computer analysis of experimental data obtained from faculty and student research activities.

Chester County Instructional Materials Service

Graduate students may use the facilities of this center which serves the public schools of Chester County in the Old Library.

Housing

West Chester provides housing facilities for its graduate students only during the Summer Sessions, when room and board are available for single men or women through the offices of the Associate Dean of Student Development, College Union Building. Graduate students are expected to abide by the housing regulations governing undergraduate students.

The College has no facilities for housing married students. Area newspapers and realtors should be consulted.

College Policy for Storm Closings

If storm conditions make it necessary to close the College, announcement will be made over most area radio and television stations, which employ a system of code numbers. West Chester's numbers are:

853	Day Classes for Undergraduate Students
2853	Graduate Classes and Other Evening Classes

Student Health Service

Two part-time physicians and five registered nurses are available to meet emergency and first-aid needs and to perform routine infirmary treatment of minor illnesses and minor surgical conditions at no cost to students. The College does not furnish other medical care nor bear the costs of medical or surgical treatment or hospitalization. The community of West Chester has qualified physicians and excellent hospital facilities. The Service is in Reynolds Hall where, for emergencies, a nurse is on duty on a 24-hour basis.

Only full-time graduate students may take advantage of a group medical and accident policy, approved by the College and covering accidents and illness on a twelve-month basis. The policy may be obtained at a minimal annual premium cost from the Health Service.

The Counseling Center

The professional counseling and psychological services of the Counseling Center are available at no charge to students needing assistance regarding educational, vocational, personal, social, and

emotional concerns. All conversations and test results are confidential.

To arrange an appointment, students may come to Room 129, Lawrence Center, or telephone 436-2301. Every attempt will be made to see the student the same day.

Speech and Hearing Clinic

Graduate students who need help in meeting minimal speech standards may use the services of the Speech and Hearing Clinic at no cost. The Clinic is conducted by the Department of Speech Pathology and Audiology, Wayne Hall.

Career Development Center

The College maintains active career planning and placement services for its students and graduates. Counseling is offered to all students and graduates in career planning, opportunities, and employment trends.

The Career Development Center libraries provide information about the careers, Civil Service appointment, application forms, procedures, and job requirements.

The services are available to graduate students at no cost, subject to the following College policy:

1. Students who have satisfactorily completed more than 15 semester hours of graduate study at West Chester or who hold undergraduate degrees from the College are eligible for the full services of the Office. Full services include: registration, development and mailing of credentials to prospective employers, career counseling, provision of private facilities for on-campus interviews arranged by the applicant, and participation in a program of on-campus interviews arranged by the Career Development Center.

2. Graduate students whose baccalaureate degrees were not received at West Chester and who have satisfactorily completed less than 15 semester hours are eligible for limited service, comprising use of the Career Development Center libraries and guidance from the staff.

The Career Development Center is located in Lawrence Center.

Veterans' Affairs

The Office of Veterans' Affairs is located in the Administration Building. All veterans, certain dependents of disabled or deceased, veterans, and war orphans who wish to obtain educational benefits under the appropriate public laws must register with the Office of Veterans' Affairs during College registrations. The Veterans Administration requires students who are veterans to schedule at least eight semester hours per semester in order to receive full-time benefits under the G.I. Bill.

A representative of the Veterans Administration who counsels and acts as liaison between students and the Veterans Administration Center is a member of the office staff.

Honor Societies
The School of Education sponsors an active chapter of Phi Delta Kappa, the international graduate honor society for men. Membership in the West Chester chapter, which was organized in 1965, is by invitation and recognizes scholarship in all fields of education.

Graduate students are eligible to participate in the activities of the undergraduate honor societies at West Chester if they have been members in their own undergraduate years. These organizations, which are described in the West Chester State College Undergraduate Bulletin, recognize academic achievement and professional interest in the fields of foreign languages, geography, health and physical education, history, mathematics, music, psychology, and social sciences.

Cultural Events
Students are urged to take advantage of the excellent cultural opportunities at West Chester. Among these are the All-Star Series, the William Pyle Philips Lecture Foundation Series, the Campus Cinema Club, the Intracollegiate Governmental Association evening series of programs, Theatre 208, and recitals and concerts given by faculty and students of the School of Music. A calendar of scheduled events may be obtained through the Office of Cultural Affairs and College Events, Lawrence Center.

Sports Activities
Opportunities for sports and recreational activities are available through the facilities of the School of Health and Physical Education. For details, see the Coordinator of Recreation, Health and Physical Education Center.

Programs of Study

Requirements and Course Offerings

Graduate course offerings are divided among the Schools as follows:

School of Arts and Letters

Art
English
Foreign Languages
Philosophy
Speech Communication and Theatre
Speech Pathology and Audiology

School of Education

Counselor Education
Elementary Education
Instructional Media Education
Secondary Education and
Professional Studies
Criminal Justice
Educational Research
Reading
Special Education
Urban Education

School of Health and Physical Education

Health Education
Physical Education

School of Music

Music Education
Music History and Literature
Music Theory and Composition
Instrumental Music
Keyboard Music
Vocal and Choral Music

School of Sciences and Mathematics

Biology
Chemistry
Earth Sciences
Mathematical Sciences
Nursing
Physics

School of Social and Behavioral Sciences

Anthropology, Sociology, and Social Welfare
Business and Economics
Geography and Planning
Government and Politics
History
Psychology

For the convenience of readers the arrangement of course offerings is alphabetical by field or area of study.

Anthropology and Sociology

Mr. Murphy, Chairman, Department of Anthropology, Sociology, and Social Welfare

PROFESSORS

Marshall J. Becker, Ph.D.
University of Pennsylvania
Glenn W. Samuelson, Ed.D.
University of Maryland

ASSOCIATE PROFESSORS

Patrick W. Luck, Ph.D.
University of Connecticut
John A. Main, D.S.W.
University of Pennsylvania
Martin Murphy, A.M.
University of Michigan
Margaret C. Yeakel, D.S.W.
Case Western Reserve University

ASSISTANT PROFESSORS

Jon A. Cowen, A.M.
University of Pennsylvania
Bonita F. Witthoft, Ph.D.
University of Pennsylvania

The Department of Anthropology, Sociology, and Social Welfare offers two degree programs. One leads to the Master of Arts in social science with a concentration in anthropology/sociology. The other, which is given in cooperation with the School of Education, leads to the Master of Education in social science with a concentration in anthropology/sociology.

The Master of Arts program is interdisciplinary within the School of Social and Behavioral Sciences. It is particularly relevant to teachers who wish to strengthen subject-matter knowledge in more than one academic discipline and is also appropriate for persons employed in industry and various levels of government. Those choosing the anthropology/sociology concentration are well prepared for the human services and for social work. Students in this concentration are advised by the Department of Anthropology, Sociology, and Social Welfare.

The Graduate Record Examination is required for admission and diagnostic purposes in both programs.

MASTER OF ARTS IN SOCIAL SCIENCE

Concentration: Anthropology/Sociology

(30 Semester Hours)

In the research area either Ant 500 or Soc 500 and either Ant 600 or Soc 600 are required. Under advisement, the student chooses

9-12 semester hours of work in anthropology or sociology courses. Beyond these areas, he completes 12 semester hours in social science electives, developed from at least two departments other than Anthropology/Sociology in the School of Social and Behavioral Sciences. Finally there is a cognate elective area of 1-3 semester hours which may be met with course work from any School in the College. All electives are planned with departmental advisement.

MASTER OF EDUCATION IN SOCIAL SCIENCE

Concentration: Anthropology/Sociology

(34 Semester Hours)

Students in this program must meet a professional education requirement of 10-12 semester hours. (See page 75 School of Education.)

The anthropology/sociology concentration area of 20-22 semester hours requires Ant 500 or Soc 500 (Methods and Materials of Research in Anthropology or Sociology). The student then has the option of writing a research report (Ant 600 or Soc 600) or developing a thesis (Ant 610 or Soc 610). Under advisement additional anthropology or sociology courses appropriate to the student's needs are selected to complete the concentration. There is also an elective area of (0-4) semester hours in either academic or professional-education work.

Offerings in Anthropology and Sociology

ANTHROPOLOGY

Symbol: Ant

500 Methods and Materials of Research in Anthropology (3)
The logic of anthropological research; fundamentals of research design, data collection, evaluation.

530 Problems in Anthropology (3)
Major aspects of physical and cultural anthropology. Some background in anthropology recommended.

540 Ethnographic Studies (3)
Intensive survey of a single culture area. Description of the cultural ecology and its significance for the rest of the world. Area for study announced in advance.

550 Seminar in Anthropology (3)
Selected problems in anthropology. Subject announced in advance of each semester. PREREQ: Ant 500.

590 Independent Studies in Anthropology (1-3)
Research projects, reports, readings in anthropology. PREREQ: approval of instructor and department chairman.

600 Research Report (2)

610 Thesis (3)

SOCIOLOGY

Symbol: Soc

500 Methods and Materials of Research in Sociology (3)
The logic of sociological research; fundamentals of research design, data collection, evaluation.

531 Social Problems (3)
Social problems in urbanized-industrialized society; their causes and possible corrections.

532 History of Sociological Theory (3)
Social thought from the early Greeks to contemporary times. Contributions of outstanding European and American theorists.

533 American Minorities (3)
Racial, cultural, and religious minority groups in America today. Prejudice, discrimination, and possible solutions for tensions between dominant and minority groups are examined.

550 Seminar in Sociology (3)
Selected problems in sociology. Subject announced in advance of each semester. PREREQ: Soc 500.

590 Independent Studies in Sociology (1-3)
Research projects, reports, readings in sociology. PREREQ: approval of instructor and department chairman.

600 Research Report (2)

610 Thesis (3)

Art

Mr. Hoberg, Chairman

ASSOCIATE PROFESSORS

Jack G. Hawthorne, M.F.A.
University of Pennsylvania
Pamela Hemphill, Ph.D.
University of Pennsylvania
Perry F. Hoberg, M.A.
University of Delaware
Victor Lasuchin, M.F.A.
University of Pennsylvania
Robert D. McKinney, M.Ed.
Pennsylvania State University
Gus V. Sermas, M.F.A.
University of Wisconsin
Carolyn G. Simmendinger, M.F.A.
Tyler School of Art
Linwood J. White, M.F.A.
University of Pennsylvania

ASSISTANT PROFESSORS

Ronald N. Defino, M.F.A.
Tyler School of Art
William J. Rarick, M.F.A.
Tyler School of Art
Bernice Shapiro, M.Ed.
Tyler School of Art

Offerings in Art

Symbol: Art

516-517 Painting I-II (3) (3)
Individual expression in painting. Experimentation is encouraged.

520 Painting: Independent Projects (3)
Individualized instruction at advanced level. Development of professional, personal, and imaginative statements leading to formation of student's pictorial identity.

521 Sculpture I (3)
Introduction to sculpture via the fundamentals of 3-D design. Use of basic tools, development of skills, techniques, and processes in creating sculpture. Projects in plaster, clay, stone, wood.

522 Sculpture II (3)
Advanced problems in sculpture; continuing exploration of form, structure, process. Use and maintenance of tools. Materials; their origins and supply sources. Projects in clay, stone, wood, plastic, plaster, wire, new materials.

525 Multi-Media Workshop in Sculpture III (3)
Fabrication methods and techniques, using wood, plastic, various metals.

531 Ceramics I (3)
Ceramic techniques and aesthetics of clay, leading toward development of creative expression. Exercises in hand-built and wheel-thrown forms. Formulation of clay bodies, glaze bodies, and calculations; loading and kiln firing techniques. Also, basic exercises for elementary and secondary teaching levels.

532 Ceramics II (3)
Further development of expression for those who have mastered basic ceramic processes. Research in clay bodies, glaze chemistry, firing techniques, kiln construction. Creative problems.

533 Ceramics: Studio Problems (3)
Individual projects involving the total or specialized areas of the ceramic process. Practical experience through helping to maintain the ceramic complex.

534 Ceramics: Independent Projects (3)

541 Printmaking: Relief, Independent Projects (3)
Advanced-level study with individualized instruction. Collagraph, lino-cut, woodcut techniques. Combining various printing processes with relief printmaking.

542 Printmaking: Silk-screen, Independent Projects (3)
Advanced-level study with individualized instruction. Technical and aesthetic possibilities including photo-stencil, incorporation of silk-screen with other printmaking processes.

543 Printmaking: Intaglio, Independent Projects (3)
Advanced-level study with individualized instruction. Relief etching and basic intaglio techniques for work on metal plates. Drypoint, straight line etch, soft and lift grounds, aquatint, engraving. Combining various printing processes with intaglio printmaking.

544 Printmaking: Lithography, Independent Projects (3)
Advanced-level study with individualized instruction. Aluminum plates and stone lithography techniques. Combining various printing processes with lithography.

546 Drawing: Independent Projects (3)
Advanced-level study with individualized instruction. Emphasis on professional, personal, and imaginative statements leading to student's iconographic identity.

547 Two-Dimensional Design: Independent Projects (3)
Advanced-level study with individualized instruction. Design elements and analytical principles of organization. Emphasis on professional, personal, and creative statements leading to formation of professional employment.

549 Graphic Design: Independent Projects (3)
Advanced-level study with individualized instruction. Developing means for solving communication problems of diverse character with emphasis on practical application. Projects are refined into portfolio presentations for professional employment.

551 Art Education in the Elementary School (3)
Current trends in art education for the elementary school.

565 Crafts: Independent Projects (3)
Projects involve varied media and their techniques and processes. Exploration of 2-D and 3-D crafts and their application in recreational and elementary school programs.

576 Primitive Art (3)
Ritual and myth from prehistory to early Ancient Near East; contemporary primitive cultures; psychological and psychoanalytical interpretations; comparison with phenomenon of primitivistic interests of the West.

580 European and U.S. Art (3)
For the student who is deficient in art history and wishes to augment his field (e.g. social studies, literature, philosophy). Analysis of the major forms and styles from Renaissance to present.

581 The Artist and Society (3)
Personal statement of the student's commitment to art. The nature of the creative impulse; the necessity to society of creative production.

590 Independent Studies in Art (1-3)

595 Latin-American Art (3)
Interpretation of 20th-century environmental architecture and decoration with relationship to cultural development in Latin America.

596 Introduction to Aesthetics (3)
Introduction to the aesthetic theories and art forms in the context of social change, philosophy and sciences, creation, and the creative process.

597 History of Aesthetics and Art Criticism (3)
Philosophical theories of art production from Ancient Greece through the 19th century. Relationship of aesthetic experience to forms and to technical, psychological, and cultural vlaues.

AUDIOLOGY—see Speech Pathology and Audiology

Biology

Mr. Bernhardt, Chairman
Dr. Dorchester, Coordinator for Graduate Studies

PROFESSORS

Relis B. Brown, Ph.D.
Yale University
Carmela L. Cinquina, Ph.D.
Rutgers—The State University
Thomas DeMott, V.M.D.
University of Pennsylvania
John E. C. Dorchester, Ph.D.
University of Toronto
William R. Overlease, Ph.D.
Michigan State University
Ronald F. Romig, Ph.D.
University of Delaware
Richard I. Woodruff, Ph.D.
University of Pennsylvania

ASSOCIATE PROFESSORS

Robert W. Bernhardt, M.S.
Syracuse University
William C. Brown, M.Ed.
Bloomsburg State College
Georgann Cullen, M.A.
Kent State University
James M. McDonnell, M.A.
Temple University
Margaret Y. Martinez, M.A.
Columbia University
Timothy P. Sullivan, Ph.D.
University of Minnesota

ASSISTANT PROFESSORS

Marianne K. Eleuterio, Ph.D.
University of Delaware
Harry G. Jones, M.S.
University of Pennsylvania

The Department of Biology offers two degree programs, one leading to the Master of Arts in biology and the other to the Master of Education in biology.

Admission to The Programs
Applicants for either program must meet the general requirements

for admission to degree study at West Chester and, in addition, submit scores for the Graduate Record Examination (verbal, quantitative, and advanced biology).

Admission to The M.A. Program
Applicants must present a minimum of two semesters of general college chemistry, one semester of organic chemistry, one semester of mathematics, and at least 24 semester hours of biological science.

Admission to The M.Ed. Program
Applicants must present a minimum of two semesters of general college chemistry, one semester of organic chemistry, and at least 18 semester hours of biological science.

Degree Candidacy
A student who intends to obtain a master's degree in biology must apply for degree candidacy by the time he has completed 15 hours of graduate credit in the Department of Biology. The application forms are obtained from the Graduate Office. In order to qualify for admission to candidacy the student must:

1. Have completed a minimum of 12 hours of graduate-level courses in biology with an average of B (3.0) or better.
2. Have submitted Graduate Record Examination scores for verbal, quantitative, and advanced tests.
3. Have performed satisfactorily on the departmental qualifying examination, which is administered the third Saturday of March and the third Saturday of October. Students should notify the department graduate coordinator in writing of their intention to take the examination.
4. Have removed any conditions under which the student was originally admitted to graduate study.

REQUIREMENTS FOR THE M.A. DEGREE IN BIOLOGY

(30 Semester Hours)

The candidate for the M.A. in biology must complete 30 semester hours of graduate work, of which at least 24 credits must be in biology. Six of these credit hours must be either in a thesis or a seminar program as outlined below. Six credit hours may be taken in allied sciences, approved by the department. In addition the candidate must perform successfully on an oral defense of thesis, or on the oral comprehensive examination.

A. Thesis (Bio 610)
The thesis should be based on independent laboratory or field observations and should constitute a contribution to existing knowledge. Although publication is not a requirement, the thesis should be in a format acceptable to any standard journal in the field. The candidate will be expected to defend the thesis in an oral examination.

B. Seminars in biology
The candidate will participate in three seminars chosen from the following seminars: Bio 520—550—560—570—590. Seminars selected are subject to the approval of the faculty adviser or instructor. The content of the seminars will figure prominently in the final oral comprehensive examination.

REQUIREMENTS FOR THE M.Ed. DEGREE IN BIOLOGY

(34 Semester Hours)

The candidate for the M.Ed. must complete 34 semester hours of graduate work, and of these, 10-12 hours must be taken in professional education courses in accordance with the requirements of the School of Education. (See page 75.) In the area of biology, Bio 500 is required for all M.Ed. candidates. Of the remaining 18-20 semester hours, all must be taken in biology or—under advisement—three of these hours may be taken in an allied science. The final comprehensive oral examination must be taken any time after the completion of 28 semester hours. The student may elect to be examined in the subject matter of his courses or may elect to present a seminar and be examined in the subject matter of the seminar and peripheral areas of knowledge.

Finally the student fulfills an elective area of from 0-4 semester hours in either professional education or academic course work.

Offerings in Biology

Symbol: Bio

500 Methods and Materials in Biological Research (2)
Literature searching in biology; preparations of scientific reports; experimental design.

501 Modern Techniques of Teaching Biology (3)
Contemporary methods in biology teaching including laboratory preparations and presentations.

502 Introductory Biochemistry (3)
Background for teaching biology in the secondary school. Elements of organic chemistry, solutions, buffers, enzyme action, structure and metabolism of biological compounds. Some illustrative laboratory exercises. PREREQ: college biology.

503 Mammalian Physiology (3)
Fundamental physiological processes in mammals. PREREQ: college biology.

504 Ecological Concepts (3)
Ecological concepts and information important for biology teachers. PREREQ: college biology or permission of instructor.

505 Field Ecology and Natural History (3)
Identification of natural forms in local habitats. A course for endorsement of teachers in outdoor education. Not applicable to a master's degree in biology.

510 History of Biology (3)
Development of biology from the earliest records. PREREQ: general zoology, general botany.

512 The Living Forest (1)
An introduction to the forest as an ecosystem. Not counted toward a biology major.

515 Common Trees of Chester County (1)
Survey of common native (and some ornamental) trees of Chester County, including identification and relationships of species to habitat. Not counted toward a biology major.

516 Summer Wild Flowers (1)
Survey of common summer wild flowers (and some weeds), including identification and relationship of species to habitat. Not counted toward a biology major.

517 Summer Birds (1)
Location, observation, and identification of summer birds. Not counted toward a biology major.

520 Seminar in Cellular Biology (2)
Oral and written reports on topics drawn from such areas as cellular physiology, cytology, genetics, histology, and microbiology. PREREQ: permission of department.

528 Animal Histology (3)
Structure and function of animal tissues and organs. PREREQ: college biology or zoology.

530 Genetic Theory (3)
Theory of mutation of genes, chromosomal mappings; chromosomal abnormalities; principles of dominance and recessiveness; multiple factors; lethal factors; the nature of DNA. PREREQ: college biology or zoology and general botany.

539 Human Heredity (3)
The innate qualities of human beings and the genetic basis for these qualities. PREREQ: general genetics or permission of instructor.

543 Experimental Embryology (3)
A laboratory course introducing the student to experimental embryology. PREREQ: embryology and organic chemistry or permission of instructor.

547 Growth and Development (3)
Discussion course dealing with current topics in the field of developmental biology. PREREQ: college biology or zoology. Genetics and embryology recommended.

549 Developmental Anatomy (3)
Anatomy of human reproductive systems and fundamentals of human development. PREREQ: college biology or zoology.

550 Seminar in Organismic Biology (2)
Oral and written reports on topics drawn from such areas as development, morphology, physiology, systematics, and particular groups of organisms. PREREQ: permission of department.

552 Comparative Parasitology (3)
Morphology and life cycles of the important parasites of man and animals; epidemiology, pathogenesis, and methods of treatment and control. Two hours lecture and three hours lab. PREREQ: college biology or zoology.

556 Advanced Plant Anatomy and Morphology (3)
Macroscopic and microscopic structure of plants and plant parts. PREREQ: college botany or permission of instructor.

557 Insect Morphology (3)
Structure of insects; variations of form in the principal orders. PREREQ: college biology.

558 Comparative Mammalogy (3)
Morphology, evolution, systematics, life cycles, behavior, and distribution of mammals; ecology, economics, and conservation of the group.

559 Advanced Human Anatomy (3)
Regional studies in the structure of man. PREREQ: college biology.

560 Seminar in Molecular Biology (2)
Oral and written reports on topics drawn from such areas as biochemistry, biophysics, and microbiology. PREREQ: permission of department.

561 Biochemistry I (3)
Chemistry of carbohydrates, fats, proteins, and phosphorus compounds. PREREQ: inorganic chemistry, one semester of organic chemistry.

562 Biochemistry II (3)
Continuation of Bio 561: bioenergetics; enzymology; metabolism of carbohydrates, fats, proteins. PREREQ: Bio 561 or equivalent.

564 Advanced Bacteriology (3)
Bacteriological structure and metabolism with emphasis on laboratory techniques. Advances as described in current literature. PREREQ: bacteriology, organic chemistry.

566 Physiology of Plants (3)
Plant-cell physiology including respiration, photosynthesis, enzyme catalysis, auxins, membrane phenomena. PREREQ: college botany, organic chemistry.

567 Endocrinology (3)
Anatomy and physiology of the ductless glands and the role of hormones in regulation and coordination of body processes. PREREQ: college biology and organic chemistry.

569 Nutrition (3)
Studies in nutrition as applied to the health and habits of man. PREREQ: introductory college courses in biology and chemistry.

570 Seminar in Populational Biology (2)
Oral and written reports on topics drawn from such areas as biogeography, ecology, evolution, and natural history. PREREQ: permission of department.

572 Applied Ecology (3)
Principles of ecology applied in the practice of resource management: forestry, wildlife management, park management, and agriculture. PREREQ: Bio 504 or equivalent.

573 Applied Entomology (3)
Benefical and deleterious influences exerted by insects upon man's welfare. PREREQ: college biology.

575 Limnology (3)
Physical, chemical, and geological features of the freshwater environment in the biology of freshwater algae. PREREQ: college botany, general ecology.

577 Animal Ecology (3)
Interrelationships of organisms and the environment, including physical and biological factors. PREREQ: general zoology or college biology.

578 Freshwater Invertebrates (3)
Morphology, taxonomy, and bionomics of freshwater invertebrates. PREREQ: college biology.

579 Human Ecology (3)
The urban ecosystem, approached through study of the major biotic and abiotic

components of a local urban community. PREREQ: college biology, ecology, or permission of instructor.

580 Experimental Biology (3)
Experimental approaches to biology including measurement, instrumentation, and experimental design. PREREQ: two years of college biology.

581 Microtechnique Laboratory (2)
Introduction to histological and histochemical techniques. PREREQ: animal histology or permission of instructor.

583 Ecological Techniques (3)
Field and laboratory techniques in collection and handling of environmental and biotic data. PREREQ: college ecology.

585 Systematic Botany (3)
Principles of taxonomy and biosystematics. Selected plant families from tropical and temperate zones. Each student develops proficiency in the use of a modern flora and knowledge of the common species of the spring flora of Chester County. PREREQ: college botany or permission of instructor.

587 Systematic Zoology (3)
Principles and procedures governing the classification of animals. PREREQ: college biology.

588 Medical Entomology (3)
The relation of arthropods (principally insects) to diseases of man. PREREQ: college biology.

590 Seminar in Biological Principles (2)
Discussion and written reports on topics of current interest in biology. PREREQ: permission of instructor.

591 Independent Study in Biology I (1-3)
Individual research under the guidance of a faculty member. PREREQ: permission of instructor.

592 Independent Study in Biology II (1-3)
Individual research under the guidance of a faculty member. PREREQ: permission of instructor.

593 Independent Study in Biology III (1-3)
Individual research under the guidance of a faculty member. PREREQ: permission of instructor.

600 Research Report (1-3)

610 Thesis (6)

Sci 522 Philosophy of Science (see Phi 522)

See also Marine Science

Chemistry

Dr. Durand, Chairman
Dr. Bravo, Coordinator for Graduate Studies

PROFESSORS

Eleanor W. Ashkenaz, Ph.D.
University of Pennsylvania
Justo B. Bravo, Ph.D.
University of Kansas
Marc L. Durand, Ph.D.
University of New Hampshire
Robert F. Foery, Ph.D.
University of Iowa
Robert W. Medeiros, Ph.D.
University of Delaware
Francis J. Reynolds, Ph.D.
University of Pennsylvania
Philip B. Rudnick, Ph.D.
Rutgers—The State University
William Torop, Ed.D.
University of Pennsylvania

ASSOCIATE PROFESSOR

Ardis M. Williams, A.M.
Vassar College

ASSISTANT PROFESSORS

Helen R. Eichelberger, Ph.D.
University of New Orleans
Philip Witonsky, Ph.D.
University of Minnesota

The Department of Chemistry offers a program leading to the Master of Science degree in chemistry and cooperates with the Departments of Earth Sciences and Physics in offering a program leading to the Master of Arts in physical science. *See Physical Science Program.*

MASTER OF SCIENCE IN CHEMISTRY

Admission Requirements. In addition to meeting the general requirements for a degree program at West Chester, applicants must present an undergraduate background including mathematics through calculus, one semester of analytical chemistry, and full-year courses in organic chemistry and physical chemistry.

Degree Requirements

1. Before admission to degree candidacy, each student is required to take four out of five qualifying examinations in the major areas of chemistry (inorganic, organic, analytical, physical, and biochemistry). The four areas are to be selected by the student. At least three of these examinations must be passed. If necessary, they may be retaken once. The student may be required to enroll in

appropriate undergraduate courses for no credit in order to prepare for a re-examination. These examinations must be passed before admission to degree candidacy, i.e., prior to the attainment of 15 graduate credits.

2. At the discretion of the department chairman, Graduate Record Examination scores may be required for purposes of evaluation and guidance.

3. A reading proficiency is required in any one of the following modern languages: German, French, or Russian. The reading test is administered by the Department of Foreign Languages. In place of the modern-language proficiency, a demonstrated proficiency in a computer language (FORTRAN, for example) may be substituted.

4. The candidate must perform successfully on an oral examination which is required for all options. The oral examination will include general chemistry knowledge but will place emphasis on the area represented by independent study or the research report. The members of the examination committee include the research supervisor, the departmental graduate coordinator, and one other professor.

PROGRAM FOR THE M.S. IN CHEMISTRY

(30, 33, or 36 Semester Hours)

The M.S. in chemistry program consists of a required core of 15 semester hours and a chemistry elective area for which there are three options. All students must complete the core, composed of Che 511—531—545 and any two of the Topics courses (Che 515—525—533—542—575).

Option A (30 semester hours)
This is the thesis program. Beyond the core the candidate takes Independent Studies/Thesis (Che 610) and 9 semester hours of electives.

Option B (33 semester hours)
Beyond the core this option requires Independent Study in Chemistry/Research Report (Che 590) for 6 credits and 12 semester hours of electives.

Option C (36 semester hours)
Under this plan the student meets his core requirements and an elective area of 21 semester hours which must include 3 credits in library research and report (Che 590).

Under all options the elective area is developed under advisement from chemistry offerings but may include 3 semester hours

from another science area or from mathematical sciences.* Until admitted to degree candidacy, students may not undertake independent study.

Offerings in Chemistry

Symbol: Che unless otherwise shown. ChL: Laboratory.

501 History and Literature of Chemistry (2)
Development of chemical theories, rise of the experimental method; impact of major chemical discoveries on modern man. Use of published materials in chemical work. Library techniques; methods of information retrieval.

502 Modern Trends in Teaching Chemistry (2)
Introduction to current research in chemical education. New curricula and tools for teaching including audio-tutorial and programmed instruction.

503 Chemistry of the Environment (3)
The chemistry of the atmosphere, hydrosphere, and biosphere. Man's impact on these areas. Not for M.S. in chemistry.

505 Fundamental Topics in Chemistry (3)
Basic-level courses for teachers who have had no courses in chemistry other than general chemistry. Not for M.S. in chemistry.

506 Scientific Research and the Common Man (3)
Description and discussion of the impact of chemical and scientific discoveries on our way of life. An appraisal of the distribution of the vast sums spent by government and industrial agencies on basic and applied research. Not for M.S. in chemistry.

508 Industrial Pollution (3)
Applications of elementary chemical engineering to the industrial complexities of the environmental processes. Emphasis on unit operations and unit processes applicable to pollution control and abatement.

511 Advanced Inorganic Chemistry I (3)
Structure and properties of the elements and their compounds from a theoretical point of view; horizontal, vertical, and diagonal relationships in the periodic table.

512 Advanced Inorganic Chemistry II (3)
Continuation of Che 511 with emphasis on the preparation and properties of the lanthanides, actinides, and other transition elements. PREREQ: Che 511.

513 Principles of Geochemistry (also ESS 513) (3)
Migration and distribution of the chemical elements within the earth; chemistry of the lithosphere, atmosphere, hydrosphere, and biosphere; chemical changes throughout earth history; the geochemical cycle.

515 Topics in Inorganic Chemistry (3)
Topics of current interest in inorganic chemistry. Topic to be announced prior to registration.

516 Inorganic Preparations (2)
A laboratory course in advanced techniques for the synthesis of inorganic compounds.

*A computer science course taken to satisfy the foreign language requirement will not be counted as an elective toward the degree

521 Advanced Analytical Chemistry (3)
Analytical methods and techniques; theory and application of chemical instrumentation.

523 Laboratory Analysis of Eco Systems (3)
Lecture and laboratory experience in sampling techniques and methods of analysis currently employed in pollution control and abatement.

525 Topics in Analytical Chemistry (3)
In-depth examination of current topics in instrumental or wet chemical analysis. Special emphasis on state-of-the-art development and applications.

530 Organic and Biological Chemistry for Teachers (3)
A survey course for teachers with no background in organic chemistry. PREREQ: 1 year of college chemistry.

ChL 530 Basic Experiments in Organic and Biological Chemistry (2)
A one-semester laboratory course for Che 530 in fundamentals of organic chemistry. Basic laboratory procedures are taught and used for a number of organic syntheses.

531 Organic Reaction Mechanisms (3)
Theoretical treatment of selected organic reactions. Emphasis on bonding theory, structural relationship, equilibria, and free-energy relationships.

532 Synthetic Organic Chemistry (3)
Topics of current interest in organic chemistry. Topic announced prior to registration.

533 Topics in Organic Chemistry (3)
Topics of current interest in organic chemistry. Topic announced prior to registration.

535 Qualitative Organic Analysis (4)
Identification of pure organic compounds and mixtures of organic compounds using classical and modern instrumental techniques. Laboratory included.

536 Polymer Chemistry (3)
Polymerization kinetics, rheology of polymer melts, crystallization parameters, and monomer reactivity in copolymerization.

540 Advanced Physical Chemistry (3)
Basic quantum chemistry, including the hydrogen-atom problem, chemical bonding, and spectroscopic concepts.

541 Physical Chemistry for Teachers (3)
For chemistry teachers with no background in physical chemistry. Introduction to thermodynamics, kinetics, and quantum chemistry. PREREQ: integral calculus, general chemistry, general physics.

ChL 541 Basic Experimental Physical Chemistry (2)
A one-semester series of experiments for Che 541, illustrating principles of physical chemistry. Atomic structure, thermodynamics, kinetics, colligative properties, molecular properties. Some apparatus design and use of standard instrumental methods.

542 Topics in Physical Chemistry (3)
Topics of current interest in physical chemistry. Topic announced prior to registration.

545 Chemical Thermodynamics (3)
Laws and functions of thermodynamics and their applications: introduction to statistical thermodynamics.

551 Chemistry of Coordination Compounds (3)
Principles of complex formation; application of the crystal theory, various complexing agents, and chemical implications of coordinated compounds. PREREQ: Che 511.

561 Nuclear and Radiochemistry (3)
Nuclear reactions, emissions of various particles, radio chemical applications.

563 Electrochemistry (3)
Principles of electrochemical systems and galvanic cells; electrolytic applications in instrumentation and research. PREREQ: Che 511.

575 Topics in Biochemistry (3)
Topics of current interest in biochemistry. Topic announced prior to registration.

580 Workshop for Secondary School Chemistry Teachers (3)
Topic announced when offered.

581 Clinical Chemistry (3)
Analysis of biological fluids. Clinical significance of enzyme, electrolyte, protein, and carbohydrate analysis. Requires permission of instructor or undergraduate preparation in organic chemistry and quantitative analysis. PREREQ OR CONCURRENT: Che 471 (Fundamentals of Biochemistry). CONCURRENT: ChL 581.

ChL 581 Clinical Chemistry Laboratory (2)
Lab for Che 581. Practical experience in analysis of biological fluids for diagnostic parameters. Nature of biological sampling, sample preservation, methodology, statistics ouality control. PREREQ: ChL 231 and ChL 321 or equivalents.

585 Theory and Practice of Spectrophotometry (4)
Lecture and laboratory course with emphasis on research uses of spectrophotometry. Theoretical background and laboratory techniques for understanding and carrying out advanced spectroscopic studies.

590 Independent Studies in Chemistry (1-6)
An original investigation in a specific area under a staff member.

591 Seminar (1-2)
Topics of current interest in chemistry.

610 Research and Thesis (6)

Sci 522 Philosophy of Science (see Phi 522)
Not for M.S. in chemistry.

Any of the following undergraduate 400-level courses (but not more than 6 semester hours of credit) may be taken for graduate credit toward the degree:

Che 404 Foundations of Nutrition (3)
Che 424 Instrumental Methods of Analysis (2)
ChL 424 Instrumental Analysis Laboratory (3)
Che 471 Fundamentals of Biochemistry (3)
ChL 471 Experimental Biochemistry (2)

Criminal Justice

Dr. Francella, Coordinator
Mr. Barth, Assistant Coordinator

PROFESSOR

Thomas J. Francella, J.D.
University of Baltimore

ASSOCIATE PROFESSOR

Luther R. Barth, M.Ed.
Loyola University

ASSISTANT PROFESSORS

William B. Anderson, B.A.
Pennsylvania State University
Thomas A. Pitt, J.D.
Villanova University
F. L. Peter Stone, J. D.
Harvard University

A program leading to the Master of Science in criminal justice has been developed and, at press time, was under consideration for approval by the Pennsylvania Department of Education. For more current information consult the coordinators, 628 South High Street.

The courses below are open to all curricula.

Offerings in Criminal Justice

Symbol: CrJ

505 Resolution of Internal Personal Conflicts (3)
Survey of current methods for dissolving and resolving internal personal conflicts: transactional analysis, transcendental meditation, behavior modification, others. Introduction to theory, demonstration, application.

506 Management of Criminal Justice Systems (3)
Advanced management theory as applied to criminal justice agencies with emphasis on management functions, budget requirements, evaluation procedures.

507 Conflicts in the Criminal Justice System (3)
Conflicting views of participants in the criminal justice system from offense to release. Analysis of the distinctive individual statements and views of victims, investigators, prosecution, defense counsel, judges, penologists, religio-psychiatric figures, convicted persons. Public attitudes.

508 Research Design and Analysis (also Geo 508) (3)
See Geo 508.

513 Seminar on Prosecutorial Problems (3)
Issues and concerns of the prosecuting attorney's office. Restrictive court decisions; plea bargaining; investigative tools such as electronic surveillance; relationship with police, courts, defense bar; staff recruitment, tenure, expertise, ethics; special investigations of areas such as official corruption, organized crime, consumer fraud.

543 Systematic Criminality (3)
Criminal behavior patterns in organized crime, white-collar crime, and violations

of trust as opposed to violent or street crime. Criminal activity in commerce, industry, banking, government Techniques for identifying covert criminal acts and for collection of evidence.

560 Notable Criminal Cases (3)
Selected records of criminality and criminal behavior over the past hundred years are analyzed, illuminating a wide spectrum of criminal conduct and the related investigative and judicial response. Primarily from U. S. annals.

561 Major Case Investigation (3)
A model major case is constructed and enacted on campus. Perpetrators, victims, witnesses, spectators, news media, law enforcement personnel are impersonated. Simulated interviews, collection of evidence, deductions, laboratory examination, reports.

COMPUTER SCIENCE — see Mathematical Sciences

Earth Sciences

Dr. Reed, Chairman

PROFESSORS

Seymour S. Greenberg, Ph.D.
Indiana University
George F. Reed, Ed.D.
University of Pennsylvania
Russell K. Rickert, Ed.D.
New York University
Paul R. Widick, Ed.D.
Temple University

ASSOCIATE PROFESSORS

Louis A. Casciato, M.S.
Villanova University
John E. Ehleiter, M.A.
Wesleyan University
Hubert E. Harber, M.A.T.
Brown University

ASSISTANT PROFESSOR

Allen H. Johnson, Ph.D.
Case Western Reserve University

The Department of Earth Sciences, in cooperation with the Departments of Chemistry and Physics, offers a program leading to the Master of Arts degree in physical science. *See Physical Science Program.*

Offerings in Earth Sciences

Symbol: ESS

500 Modern Trends in Science Education (3)
Introduction to current research in science education; a critical review of the literature.

501 Earth Sciences in the Secondary School (3)
Recent curricula, teaching materials, and techniques for the secondary school.

505 Geology of the Solar System (3)
The geology, origin, and properties of planets, comets, asteriods, moons, and meteorites. PREREQ: one introductory course in astronomy and one in geology.

510 Principles of Physical Geology (3)
Composition of the earth (minerals and rocks) and earth processes (weathering, erosion, metamorphism, volcanism, diastrophism).

511 Geophysics (3)
Methods and techniques of physics applied to interpreting the internal structure and composition of the earth. PREREQ: physical geology.

512 Historical Geology (3)
Geologic history of the earth and the evidence for this history. Examination of fossils and geologic maps.

513 Principles of Geochemistry (also Che 513) (3)
Migration and distribution of the chemical elements within the earth; chemistry of the lithosphere, atmosphere, hydrosphere, and biosphere; chemical changes throughout earth history; the geochemical cycle.

514 Mineralogy (3)
Properties, identification, occurrence, and crystallography of the more important minerals. Fundamentals of mineral composition and structure.

515 Introduction to Rocks (3)
Origin, classification, and identification of rocks. Field and hand specimen examination.

516 Structural Geology (3)
Sequential development of the structural features of the arts; the forces involved. PREREQ: physical and historical geology.

517 Stratigraphy (3)
Development of the relative geologic time scale; physical, chemical, and biologic environments at the time of the formation of stratified rock. PREREQ: physical and historical geology.

518 Sedimentation (3)
Sedimentary rocks: classification, erosion, transportation, and deposition of stratified rock; paleo-environmental interpretations. PREREQ: physical and historical geology.

519 Field Geology (3)
Practical experience in techniques and tools of the field geologist. PREREQ: an introductory geology course.

521 Geology in the Elementary School (3)
Primarily for elementary school teachers. Fundamental principles for the origin, classification, and identification of rocks, minerals, and fossils.

523 General Geologic Field Studies of Southeastern Pennsylvania (3)
Occurrence, relationships, and geologic history of the rocks, minerals, and soils of this area, studied at representative locations.

524 History of Geology (1)
Outstanding individuals and their contributions to geology.

525 Glacial Geology (1)
Causes, regimen, distribution, and effects of glaciers.

526 Geology of Petroleum (1)
Origin, reservoir conditions, migration, accumulation, and geographic and geologic distribution of petroleum.

530 Principles of Oceanography (3)
Geology of the ocean floor, water movements, chemical characteristics of sea water, vertical and horizontal distribution of plants and animals. Brief history of oceanography.

533 Introduction to Fossils (3)
Identification and study of common fossils in order to understand their life processes and geologic significance.

540 Introduction to Meteorology (3)
Composition and properties of the atmosphere and principles that influence weather conditions.

550 General Astronomy (3)
Motions of bodies in the solar system; astronomical coordinates; measurement of time; use of telescopes.

551 Stellar Astronomy (3)
Properties of stars; unusual stars, interstellar matter, and stellar evolution; distribution and motions of the home and other galaxies. PREREQ: any general descriptive astronomy course.

552 Space Science (3)
Topics from astronomy and related sciences including problems and results of exploring the universe beyond earth's atmosphere.

556 Workshop in Aerospace Science (3)
Activities and materials adaptable to elementary school instruction in aeronautics, astronomy, meteorology, rocketry, and space biology.

650 Institute of Planetarium Education (1-3)
Fundamental concepts that can be taught in the planetarium; planetarium teaching methods; operation, use, and maintenance of the planetarium. Summers only.

571 Astronomy in the Elementary School (3)
Basic concepts in astronomy and their application to the elementary-school program.

575 Astronomy in the Secondary School (3)
The use of the planetarium, observatory, and other special devices in teaching astronomy in the secondary school.

591 Independent Study (1-3)
An investigation by a student. PREREQ: permission of department.

Sci 522 Philosophy of Science (see Phi 522)

Any of the following 400-level undergraduate courses (but not more than 6 semester hours of credit) may be taken for graduate credit toward the degree:

ESS 455 Intermediate Astronomy
ESS 465 Observatory Principles
ESS 475 Introduction to the Planetarium
ESS 490 Fundamentals of Soils
(all are 3-credit courses)

See also Marine Science

See also Science Education

Economics

Dr. Green, Chairman

PROFESSORS

Andrew W. Green, Ph.D.
University of Pennsylvania
Eugene W. Schooler, Ph.D.
Harvard University
Patrick J. M. Sylvester, Ph.D.
Bryn Mawr College
Joseph M. Thorson, Ph.D.
Indiana University

ASSOCIATE PROFESSOR

Eugene C. Hassler, M.B.A.
Indiana University

The Department of Business and Economics has no master's degree program but offers the following courses. They are particularly appropriate for the M.A. in social science, an interdisciplinary program given within the School of Social and Behavioral Sciences.

Offerings in Economics

Symbol: Eco

530 Economics and Public Policy (3)
The principles and methods of economic analysis are applied to an evaluation of the American economic system. Inflation, recession, and economic growth; problems of public finance and taxation; public policy regarding the concentration of economic power.

531 Comparative Economic Systems (3)
Essential economic features of economic systems, including capitalism, socialism, communism, and fascism.

532 History of Economic Thought (3)
The growth and development of contemporary economic thought from Plato to the present, with emphasis on the mercantilist, classical, marginalist, and Keynesian schools.

535 The Soviet Economic Community (3)
Analysis of economic relationships within the Soviet Bloc; communist economic activities abroad. PREREQ: Eco 232 or permission of instructor.

School of Education

Carlos R. Ziegler, Acting Dean

The School of Education, working cooperatively with the total College community, provides knowledge and skills for the teacher and seeks to further develop social, ethical, and professional attitudes necessary for teaching and related professional activities.

Degree programs offered by the School of Education lead to the Master of Science in Counselor Education, Educational Research, and Instructional Media; the Master of Education in Counselor Education, Elementary Education, Instructional Media Education, Reading, and Secondary Education; and the Master of Education in Secondary Education, with concentrations in nine academic fields. This last program is given in cooperation with the Schools of Arts and Letters. Sciences and Mathematics, and Social and Behavioral Sciences.

The Center for Criminal Justice is administered by the School of Education.

The School of Education also provides course work for teacher certification and offers programs which certify educational media specialists, guidance counselors, and reading specialists. In the field of special education, the School provides a program leading to certification for Teaching the Emotionally Disturbed.

Requirements for the programs are given below under the headings of departments or areas. The professional requirements for secondary education majors are found under the heading of the Department of Secondary Education and Professional Studies. Academic subject-matter concentrations are given under the appropriate department.

School of Education Offerings for All Curricula

Professional courses given in the School of Education are available to students in all curricula, subject to approval from the student's adviser and the School of Education.

Counselor Education

Dr. Smith, Chairman

PROFESSORS

Julius M. Hill, Ph.D.
University of Michigan
Edward D. Smith, Ed.D.
Pennsylvania State University
Saul H. Greenberg, J. D.
Baltimore University
William J. Rahn, M.Ed.
Temple University
Julian M. Swiren, Ed.D.
Pennsylvania State University

ASSOCIATE PROFESSORS

Joyzelle P. Clark, Ed.M.
State University of New York at Buffalo
Ronald L. Gottshall, M.A.
Michigan State University

The Department of Counselor Education offers two degree programs. The first is a degree-certification program which leads to the Master of Education and the Educational Specialist I Certificate for elementary school counselors and secondary school counselors.

The second leads to the Master of Science degree and is designed for persons interested in counseling in higher education or community-based agencies.

A handbook describing both programs in fuller detail is available from the Counselor Education office.

Admission to The Programs

Applicants must possess a baccalaureate degree from an approved institution and present an undergraduate overall average of at least 2.5. They must also have achieved an average of 2.75 in at least nine credits of guidance-related courses in areas of education, psychology, and sociology.

Additional criteria are satisfactory scores on the Miller Analogies Test and evidence of personal and professional qualities indicating a potential for success in the Counselor Education programs.

Degree Requirements

Upon meeting admission criteria students are accepted for Competency Area I, and during this phase are evaluated for academic

achievement and interpersonal relations.

Upon successful completion of Competency Area I and departmental recommendation, students become degree candidates for the remainder of the program, which encompasses advanced work and field experiences. Upon completion of the prescribed work and adviser's recommendation, candidates must undertake a comprehensive examination. The degree being pursued will be granted only when the student has met the standards of the Counselor Education Department.

Certification

In order to obtain the Educational Specialist I Certificate the student must successfully complete the required practicum in an approved secondary or elementary school. This course provides opportunity for the student to work closely with a professional counselor in a public school under supervision of the director of the practicum at West Chester State College. The certificate is issued on the basis of the Program Approval status of the Counselor Education program at the College as granted by the Pennsylvania Department of Education.

M.Ed. IN ELEMENTARY SCHOOL COUNSELING

(36-42 Semester Hours)

Competency Area I: EdC 503, 567, 571, EdF 500
Competency Area II: EdC 520, 540, 556, 572, 574
Competency Area III: EdC 585, 590
Complementary coursework (3-9 semester hours)

M.Ed. IN SECONDARY SCHOOL COUNSELING

(36-42 Semester Hours)

Competency Area I: EdC 503, 567, 571, EdF 500
Competency Area II: EdC 520, 540, 556, 573, 575
Competency Area III: EdC 585, 591
Complementary coursework (3-9 semester hours)

MASTER OF SCIENCE IN HIGHER EDUCATION COUNSELING

(36-42 Semester Hours)

Competency Area I: EdC 531, 567, 571, EdF 500
Competency Area II: EdC 520, 530, 556, 578
Competency Area III: EdC 592, 593
Complementary coursework (6-12 semester hours)

MASTER OF SCIENCE IN COMMUNITY COUNSELING

(36-42 Semester Hours)

Competency Area I: EdC 504, 567, 571, EdF 500
Competency Area II: EdC 520, 579, 580
Competency Area III: EdC 594, 595
Complementary coursework (9-15 semester hours)

Offerings in Counselor Education

EdC 503 Introduction to Guidance Services (3)
Historical development, philosophical foundations and determinants of guidance services in contemporary elementary and secondary education. Special services, testing, group and individual counseling, other elements. Guidance as a profession; ethics; current developments and trends.

EdC 504 Introduction to Counseling in Community Agencies (3)
Introduction to community agencies. Evaluation of contemporary structures, functions, and operational systems.

EdC 520 Counseling for Human Differences (3)
Examination of differences manifested by individuals. The purpose of the examination is to prepare counselors for designing counseling strategies appropriate to the uniqueness of the client.

EdC 530 The College Student (3)
In the face of increasing demands for relevance, flexibility, and vitality in the college community, workers in higher education need to know contemporary students. Hence this exploration of several aspects of the life and work of today's young adults.

EdC 531 Introduction to Counseling in Higher Education (3)
Introduction to the type of counseling services which are provided in higher education and to the settings in which these take place.

EdC 540 Assessment Methods in Guidance (3)
Emphasis is on the test and non-test assessment of intelligence, achievement, special abilities, aptitudes. Concepts such as reliability, validity, standardization. Elementary and secondary applications stressed.

EdC 545 Psychometric Interpretation (3)
Assessment and diagnosis of individuals with emphasis on reading and related learning problems. Exposure to the administration, scoring, and interpretation of individual assessment techniques. Report writing; confidentiality; use and handling of records.

EdC 556 Career Development Theories and Practices (3)
Theories and techniques related to career development in children, adolescents, and adults for both elementary and secondary counselors. Collection, use, and dissemination of occupational, educational, and social information stressed.

EdC 567 Group Dynamics (3)
Principles from the behavioral sciences, applied to understanding of small-group behavior as found in typical classrooms and group guidance settings. Developing competencies in group leadership. Translating educational experiences into positive decisions about self and environment.

EdC 568 The Professional Counselor in the Elementary School (3)
Role, responsibilities, and practices of the contemporary elementary guidance

counselor. Development of the guidance program; relationship to curricula; position of the counselor with respect to the administration, parents, children, and teachers.

EdC 569 The Professional Counselor in the Secondary School (3)
Role, responsibilities, and practices of the contemporary secondary guidance counselor. Referral resources, parental conference techniques, relationship with administration and staff, curricula; administrative aspects of the guidance program.

EdC 571 Theories of Counseling (3)
The basic theories of counseling, with emphasis on historical and philosophical origins. Historical antecedents of each theory, and evaluation of the potential of each theory as a viable approach for school counselors.

EdC 572 Counseling and Consultative Techniques in the Elementary School (3)
Practical application of the basic theories of counseling. Application of counseling and consultative techniques in simulated settings within the elementary school framework. Counselor relationships with pupils, teachers, administrators, pupil personnel staff. Community resources.

EdC 573 Counseling and Consultative Techniques in the Secondary School (3)
Practical application of the basic theories of counseling in the secondary school setting. Application of counseling and consultative techniques in simulated secondary school settings, with emphasis on the pupil, teacher, administration, parents, staff, and community resources.

EdC 574 Group Procedures in the Elementary School (3)
Emphasis is on mastering the basic theories and techniques appropriate to group procedures in the elementary school. Exposure to planning, implementing, and evaluating group activities.

EdC 575 Group Procedures in the Secondary School (3)
Mastery of theories and techniques basic to planning and implementing group activities in the secondary school. Evaluation of group activities is also stressed.

EdC 578 Counseling Techniques with Adults (3)
A pre-practicum experience in counseling adults. Application of principles and practices; preparation and techniques for group counseling.

EdC 579 Counseling Techniques in Community Agencies I (3)
The application of various counseling techniques spanning the age range of childhood through adulthood, within the framework of selected community agencies.

EdC 580 Counseling Techniques in Community Agencies II (3)
More intensive examination and use of the specific techniques introduced in EdC 579.

EdC 585 Contemporary Issues and Trends in Guidance (3)
Contemporary issues and current trends in school guidance. The student evaluates basic positions and integrates them into his prospective role as a school counselor.

EdC 590 Practicum in Elementary Guidance and Counseling (3)
Supervised practice guidance and counseling in an approved elementary school. In addition to work under the direction of a professional counselor in the school setting, the student meets on campus with the practicum supervisor for intensive seminar activities.

EdC 591 Practicum in Secondary Guidance and Counseling (3)
Supervised practice guidance and counseling in an approved secondary school. The student works under the direction of a professional counselor in the school setting, and meets on campus with the practicum supervisor for intensive seminar activities.

EdC 592 Practicum in Higher Education Counseling I (3)
Supervised counseling experiences in multiple settings within the higher education system. A related on-campus seminar is included.

EdC 593 Practicum in Higher Education Counseling II (3)
Intensive supervised counseling experience in an approved higher education setting. The practicum consists of an on- and off-campus experience.

EdC 594 Practicum in Community Counseling I (3)
Supervised counseling experience in selected community-based agencies. Includes on-campus seminars.

EdC 595 Practicum in Community Counseling II (3)
Intensive supervised counseling experience in an approved community-based agency, accompanied by on-campus experience.

EdC 599 Independent Study (1-3)
Independent research and study under the direction of a faculty member. PREREQ: permission of department chairman and instructor.

Educational Research

Dr. Peters, Coordinator

PROFESSORS

Martin J. Higgins, Ph.D.
University of Maryland
Everett A. Landin, Ed.D.
Pennsylvania State University
Ernest L. Peters, Ed.D.
University of Denver

The School of Education, in cooperation with the Bureau of Research and Related Services, offers a degree program leading to the Master of Science in educational research. Designed primarily for those desiring research positions in local school districts, the degree is also appropriate for research positions in colleges and universities, community colleges, governmental agencies, regional educational laboratories, and industry.

Admission to Degree Program
The applicant will be admitted to the program on the basis of:

1. A minimum over-all average of 2.50 in undergraduate studies

and 2.75 in the major field.
2. Graduate Record Examination Aptitude Test.
3. Personal interview with the coordinator of the program.

Any candidate admitted to graduate study, but not to the degree program in educational research, may take Res courses with permission of the coordinator. There is no guarantee that courses taken by a non-degree student may later satisfy degree requirements for the M.S. in educational research.

Requirements for Admission to Degree Candidacy
Upon completion of 10 semester hours, which must include Psy 501—Introductory Statistics for the Behavioral Sciences and EdF 500—Methods and Materials of Research in Education, the candidate will be advanced to degree candidacy provided he has maintained a minimum average of 3.00 and passed a qualifying examination.

The Internship
After mastery of the tool courses (Psy 501, EdF 500, Psy 502, and Res 520), the student will serve an internship with an outside agency conducting educational research. During this period he will utilize the skills he has developed to design and conduct a research project under the joint supervision of College and host institution personnel.

The Comprehensive Examination
To be eligible for the comprehensive examination the candidate must:
1. Have completed at least 28 semester hours and all tool courses prior to the semester in which he takes the examination.
2. Have maintained an overall average of at least 3.00.

The candidate must indicate by letter his intention to take the examination. The coordinator should receive this letter within the first 10 days of the semester in which the candidate desires the examination.

Candidates who fail the comprehensive examination are permitted one re-examination after an interval of at least one year but not more than two years.

Requirements for The Degree
1. Satisfactory completion of the curriculum outlined below.
2. An overall average of 3.00 in graduate courses taken in the degree program.
3. Satisfactory performance on the comprehensive examination.
4. Completion of Research Report or Master's Thesis approved by the coordinator.

MASTER OF SCIENCE IN EDUCATIONAL RESEARCH

(34 Semester Hours)

Required Courses: Introductory Statistics for the Behavioral Sciences (Psy 501), Methods and Materials of Research in Education (EdF 500), Advanced Statistics for the Behavioral Sciences (Psy 502), Research Design (Res 520), Assessment Methods in Guidance (EdC 540), Introduction to Computers (CSc 501), The Emerging Curriculum (EdF 503), Educational Foundations (EdF 510), Federal and State Role in Education (EdF 515), Advanced Educational Psychology (EdP 550), Internship Program in Education (Res 592) — 28 semester hours.

Research Project: Research Report (Res 600) or Thesis (Res 610) — 2-3 semester hours.

Electives: 3-4 semester hours to be chosen under advisement from the offerings of any department, with the approval of the department concerned and of the coordinator.

Offerings in Educational Research

Res 520 Research Design (2)
Principles for efficient design of experiments and other types of observational programs. Sampling techniques, methods of analysis, threats to valid inference. PREREQ: Psy 501.

Res 530 Seminar in Non-Parametric Statistics (1)
Selection and use of non-parametric tests for significance. Appropriate non-parametric tests for specific research designs are studied. One sample design and designs of two or more samples both independent and related are discussed. PREREQ: Psy 501.

Res 590 Independent Study in Educational Research (1-3)
Research project, reports, readings in educational research. PREREQ: coordinator's approval.

Res 592 Internship Program in Educational Research (2)
Opportunity for prospective educational researchers to design, conduct, and analyze a study and to prepare a report of the research. The internship is served in local educational agencies, county offices, federal project centers, the Pennsylvania Department of Education, or other research environments. The intern is supervised by both host and College personnel.

Res 600 Research Report (2)

Res 610 Thesis (3)

Elementary Education

Mr. Habecker, Chairman
Dr. Maxim, Assistant Chairman

PROFESSORS

Charlotte E. King, Ed.D.
Temple University
Carrie C. Kulp, Ph.D.
Bryn Mawr College
Erminio J. Peta, Ed.D.
Lehigh University
Carlos R. Ziegler, Ed.D.
Temple University

ASSOCIATE PROFESSORS

Nona E. Chern, M.S.
University of Pennsylvania
James E. Habecker, M.Ed.
Western Maryland College
Robert W. Herres, M.A.
Syracuse University
E. Riley Holman, Ed.D.
Brigham Young University
George W. Maxim, Ph.D.
Pennsylvania State University
Carol A. Radich, Ph.D.
University of Maryland

The department offers the Master of Education degree in elementary education, as well as non-degree programs for teachers working for professional growth.

Miller Analogies Test
Applicants for the master's degree program are required to take the Miller Analogies Test and submit scores with their initial application for admission. The application procedure will not be completed until the scores have been received.

Requirements for Admission to Degree Candidacy
1. Within the pre-candidacy period (the first 15 semester hours) the applicant must complete EdF 501 and two EdE courses.
2. Within the pre-candidacy period the applicant must maintain an average of 2.75 overall and 3.00 in elementary education.

Students who fail to qualify as degree candidates are classified as non-degree students. (See "Reapplication for Degree Candidacy" under Academic Information.)

The Comprehensive Examination
In order to become eligible for the examination the student must:
1. Be a degree candidate (his application for degree candidacy having been approved previously).
2. Complete at least 28 semester hours including all required

courses by the end of the semester preceding the examination. 3. Maintain an average of 2.75 overall and 3.00 in elementary education.

Applications for admission to the comprehensive examination are available from the Department and must be filed by December 1 for the February examination and May 1 for the July examination.

Candidates who fail the comprehensive examination are permitted to take one re-examination within a two-year period. Upon a second failure, candidates are automatically dropped from the degree program.

Dates for The Comprehensive Examination
The examination is given on the first Saturday in February and a Saturday in July, the specific date to be announced.

Requirements for The Degree
1. Satisfactory completion of the curriculum as given below. Both the selection and the sequence of courses should be determined in consultation with the appointed adviser.
2. An overall grade point average of at least 2.75 and a grade point average of at least 3.00 in elementary education. NOTE: All courses specific to elementary education are included in computing the grade point average in elementary education. Examples of such courses are Lit 550 and Mat 555.
3. Satisfactory performance on the comprehensive examination.

MASTER OF EDUCATION IN ELEMENTARY EDUCATION

This may be either a non-thesis program requiring 34 semester hours or a thesis program fulfilled with 30 semester hours.

In either option the candidate must meet a professional education requirement including EdF 501, EdF 510, and EdP 550. Also required in either option is an elementary education area consisting of EdE 548, 549, 553, and an elective in either reading or elementary education.

Within his first session of enrollment the student confers with his assigned adviser to determine an appropriate and desirable area of concentration. The remainder of his program will be developed within the selected concentration. The choice of concentrations may be made from (A) areas offered by the Elementary Education Department or (B) areas offered by other departments. These are:

(A) Elementary Education Concentration Areas

Creative Teaching-Learning
Early Childhood Education
Elementary Education (General)
Human Development
Language Arts
Open Education
Social Studies

(B) Concentration Areas in Other Departments

Bilingual Education
Children's Literature
Mathematics
Reading
Science
Special Education

Offerings in Elementary Education

NOTE: *EdE 501 Introduction to Graduate Study in Elementary Education and EdF 500 Methods and Materials of Research have been combined in EdF 501 Methods and Materials of Research and Study for Elementary Education Majors, which is required of all degree students in elementary education beginning in 1975. See Department of Secondary Education and Professional Studies for course description of EdF 501.*

EdE 502 Introduction to Early Childhood Education (3)
A basic course dealing with learning conditions which affect a young child in his early years. Historical and theoretical bases considered.

EdE 503 Contemporary Influences in Early Childhood Education (3)
Investigations into current philosophy and empirical research related to the educational needs of young children.

EdE 504 Early Childhood Education Programs (3)
Examination of recent program developments in the area of preschool-primary education.

EdE 505 Seminar in Early Childhood Education (3)
Selected problems in early childhood education. PREREQ: permission of instructor.

EdE 522 Teaching the Communication Skills (3)
Exploration of creative methods of teaching oral and written expression. PREREQ: a recent basic course in language arts.

EdE 530 Social Studies in Elementary Education (3)
Strategies for developing concepts, skills, and values in the social-studies program. Emphasis on making social studies more meaningful.

EdE 532 Curriculum and Research in Social Studies (3)
Examination of recent research in elementary social studies with emphasis on the theoretical bases for making curriculum decisions. PREREQ: permission of instructor.

EdE 533 Seminar in Elementary Social Studies Education (3)
Selected problems in elementary social studies: PREREQ: permission of instructor.

EdE 543 Creative Expression in the Elementary School (3)
Theories and techniques to promote creative thinking and enhance children's creative potential in all areas of the school curriculum.

EdE 544 Theory and Historical Background of Open Education in Elementary Schools (3)
Analysis of theoretical, historical, and empirical aspects of open education. School and classroom programs including program assessment, grass-roots change, and teacher preparation.

EdE 548 Curriculum Theory and Trends in Elementary Education (3)
Evaluation of various theoretical frameworks of curriculum and trends in subject fields of elementary education. To be taken after 15 hours of work.

EdE 549 Theory and Trends in the Language Arts (3)
Analysis and evaluation of language-arts programs including reading in the modern elementary school. PREREQ: EdE 548.

EdE 551 Child Development and Behavior I (3)
Social, intellectual, emotional, physical, and moral aspects of child development and behavior. Emphasis on personal development of the teacher as a prerequisite to understanding children in the elementary school.

EdE 553 Child Development and Behavior II (3)
Review of principles of growth and development. Theories of personality development; clues to identifying children with problems; therapies applicable to elementary-school children. Case study required. PREREQ: a recent course in child development.

EdE 554 The Child and his Self Concept (3)
Self-concept theory and its implications for child development, learning, and behavior; specific application to work with the elementary school child. PREREQ: course work in elementary education and child development.

EdE 555 Self-Processes of the Facilitator (3)
Self-processes and other factors influencing interaction with students via exploration of feelings. Classroom approach that develops behavior in which feelings are expressed in a facilitating manner. PREREQ: EdE 553.

EdE 556 Seminar in Human Development (3)
Critical issues in human development. PREREQ: permission of instructor.

EdE 560 Meeting Individual Needs of Children (3)
Discovering each child's needs; providing for individualized learning; identifying problems and their solutions. PREREQ: course work in elementary education and child development.

EdE 561 Guidance in the Elementary School (3)
Developmental guidance—philosophy, programs, personnel. Guidance role and responsibilities of the teacher in the classroom. PREREQ: course work in elementary education and child development.

EdE 565 Effective Classroom Management (3)
Dynamics of interpersonal relations in planning and facilitating classroom instruction.

EdE 570 Supervision in the Elementary School (3)
Concepts and practices in supervision of teachers, student teachers, and aides. PREREQ: course work in elementary education and child development.

EdE 580-589 Workshops in Elementary Education (2-6)
Additional course numbers will be assigned as new areas of study are announced. Credits vary. The series presently includes:

580 Workshop in Elementary Education
581 Workshop in Open Education (Elementary)
582 Workshop in Social Studies
583 Workshop in Creativity
584 Workshop in Early Childhood Education

EdE 590 Independent Study (1-3)
Enrollment by permission only; number of credits determined by instructor.

EdE 600 Research Report (1-2)

EdE 610 Thesis (4-6)

EdE 695 Seminar in Elementary Education (3)
Selected topics in elementary education. To be taken during semester preceding application for the comprehensive examination in elementary education.

Instructional Media Education

Dr. Weagley, Chairman

PROFESSORS

Richard L. Strayer, Ed.D.
Temple University
Richard P. Weagley, Ed.D.
Pennsylvania State University

ASSISTANT PROFESSOR

Jay P. Steinmetz, M.Ed.
West Chester State College

ASSOCIATE PROFESSORS

David L. Redmond, M.S.
Syracuse University
Joseph M. Spiecker, Ed.M.
Temple University

The Department of Instructional Media Education offers three programs in educational media.

Master of Education. This degree is offered to candidates who possess an Instructional Level I or Instructional Level II certificate, and prepares them for positions as Instructional Media coordinators in elementary and secondary schools and for instructional and administrative positions in colleges.

Master of Science. This is a program designed for the many fields outside education where highly skilled personnel in instructional media are in growing demand. These fields encompass business, industry, religious organizations, and government. Unlike the M.Ed. program, the M.S. program does not require an undergraduate background in teaching; nor does it lead to certification.

Educational Media Specialist Certification. Certification, which may be earned by completing the Master of Education degree program, may also be achieved with the completion of 24 credits in educational media in a non-degree program. The certificate is valid for obtaining positions in instructional media in the public schools of Pennsylvania.

MASTER OF EDUCATION

Students admitted to the master's degree program are required

to submit scores for the Graduate Record Examination Aptitude Test and/or the Miller Analogies Test during their first session (fall, spring, or summer) of enrollment.

Admission to Degree Candidacy. Upon completion of 15 semester hours, application for degree candidacy may be made by students who meet the following requirements:
1. A 3.00 average in courses in educational media.
2. A 2.75 average in over-all graduate work.
3. Successful performance on the Graduate Record Examination and/or the Miller Analogies Test.
4. Satisfactory performance on a proficiency examination in the field of educational media.

The Comprehensive Examination. Admission to the comprehensive examination is gained upon admission to degree candidacy and completion of all required courses and 28 semester hours of course work.

Degree Requirement. The candidate must perform satisfactorily on the comprehensive examination and satisfactorily complete the curriculum shown below.

MASTER OF EDUCATION IN EDUCATIONAL MEDIA

(34 Semester Hours)

Required Courses: EdF 500 and EdF 510 — 5 semester hours

Area of Concentration Requirements: EdM 502, 511, 519, 520, 522, 555, 560, 590 — 23 semester hours

Area of Concentration Electives: 3-6 semester hours chosen under advisement from offerings in Instructional Media

Free Electives: 0-2 semester hours (under advisement)

MASTER OF SCIENCE

Students admitted to this program are required to submit a score for the Miller Analogies Test during the first session of enrollment.

Admission to Degree Candidacy. Before completion of 15 semester hours, application for degree candidacy is made by students who meet the following requirements:

1. A 3.00 average in course work.
2. Successful performance on the Miller Analogies Test.
3. Satisfactory performance on a proficiency examination in educa-

tional media.
4. Successful completion of a project in the area of concentration.

The Comprehensive Examination. Admission to the comprehensive examination is gained upon admission to degree candidacy and completion of all required courses and 28 semester hours of work.

Degree Requirements
1. Satisfactory completion of the Master of Science curriculum and an overall average of 3.00.
2. Satisfactory performance on the written comprehensive examination.
3. Successful completion of a project demonstrating professionalism in the candidate's area of concentration.

MASTER OF SCIENCE IN EDUCATIONAL MEDIA

(34 Semester Hours)

Required Courses: EdM 502, 520, 522, 560, 563, 591 — 17 semester hours

Concentration Area: Each student must pursue a concentration of 9 semester hours in one of four following areas.
A. Photography. EdM 513, 525, 526
B. Cinematography. Three courses chosen from EdM 505, 529 530, 531

C. Television. EdM 533, 534, 535

D. Research in Communications. EdF 500, Res 520, EdM 595, EdM 600

Electives: 8 semester hours chosen under advisement. The candidate is required to show competence in, or to take a course in, each of the above three areas not chosen for his concentration.

EDUCATIONAL MEDIA SPECIALIST CERTIFICATION

(24 Semester Hours)

In order to obtain this certificate the student must:

1. Hold a Pennsylvania certificate valid for teaching in the elementary or secondary schools.

2. Complete the State-approved curriculum, which consists of EdM 502, 519, 520, 522, 555, 560, 590, and 4 semester hours of electives taken under advisement.

3. Achieve an overall average of 2.75 in the program.

4. Perform successfully on a final proficiency examination.

Offerings in Instructional Media

EdM 501 Orientation to Educational Media (3)
Survey of modern educational media with opportunities for laboratory activities.

EdM 502 Selection and Effective Utilization of Educational Media (3)
Evaluates diverse types of educational media and explores means of integrating these media into the instructional situation.

EdM 505 The Motion Picture in Education (3)
History and development of the motion picture, with emphasis on educational motion pictures. Cinematographic techniques; the impact of 35 mm., 16 mm., and 8 mm.; the single-concept instructional film. An evaluation of diverse types of films as they apply to types of learning.

EdM 508 Instructional Materials in the Elementary School Curriculum (3)
Practice in techniques of using and evaluating communications media in the classroom. Correlating audio-visual materials and techniques with the elementary program.

EdM 511 Programmed Instruction (3)
Program writing is stressed in this workshop type course covering the history and psychology of programmed instruction. Trends in programmed instruction; program evaluation; programming techniques. PREREQ: general psychology.

EdM 513 Producing Auto-Instructional Programs (3)
Techniques in the production of slide-tape presentations, audio-tape presentations, 8 mm. magnetic sound film lessons, and other self-teaching sequences. PREREQ: EdM 511, 525.

EdM 519 Library Science (3)
Organization and administration of libraries, with emphasis on instructional materials. Selecting, cataloguing, and evaluating instructional materials.

EdM 520 Designing Instructional Materials (3)
Techniques of lettering and design for display and projection materials.

EdM 522 Production of Non-Projected and Projected Materials (3)
Basic local production techniques including copying, duplicating, mounting, displaying, and evaluating graphics and flat pictures. Investigates techniques for designing and locally producing projectuals; evaluates commercial techniques of transparency production. PREREQ: EdM 520.

EdM 524 Advanced Projectual Production (3)
Design and production of projectuals using technamation, color imbibition, photocopy, and advanced diazo techniques. Investigation of commercial production of transparencies. PREREQ: EdM 522.

EdM 525 Photography for Teachers (3)
A basic laboratory course in the taking and processing of still pictures.

EdM 526 Advanced Still Photography (3)
Lecture and laboratory experiences in the use of large-format cameras. PREREQ: EdM 525.

EdM 529 Instructional Use of the 8 mm. Motion Picture Camera (3)
Prepares teachers to produce and/or guide students in the production of 8 mm. films.

EdM 530 Cinematography I (3)
Scripting and shooting 16 mm. motion pictures.

EdM 531 Cinematography II (3)
Editing and sound recording on 16 mm. films. PREREQ: EdM 530.

EdM 533 Television in Education (3)
Development of educational television and the instructional use of commercial, educational, and closed-circuit television in the classroom.

EdM 534 Instructional Television Production I (3)
Planning, writing, producing, and evaluating instructional television productions. PREREQ: EdM 533.

EdM 535 Instructional Television Production II (3)
Production of telecasts in selected subject areas with emphasis on videotape recording. PREREQ: EdM 534.

EdM 555 Learning Theories Related to Educational Media (3)
The role of perception in sensory experience; inner cognitive processes in relation to maturation, goals and drives, types of learning, and environment. Psychological processes are related to the learning resources provided by educational media.

EdM 560 Organization and Administration of the Educational Media Program (3)
The function of the school's educational media program; selection and evaluation of materials and equipment; unit costs; problems of developing and maintaining an efficient operation. PREREQ: 12 graduate credits in educational media.

EdM 563 Field Study in Educational Media (3)
A scheduled group or individual tour, foreign or domestic, in which students investigate notable installations or projects in educational media.

EdM 565 Seminar in Educational Media (2)
Explores current problems in the use of instructional media. PREREQ: 12 graduate credits in educational media.

EdM 590 Internship Program in Educational Media (2)
Practicum in supervising and implementing instructional services. PREREQ: 18 credits in educational media.

EdM 591 Seminar in Research in Communications (2)
Basic elements of communication theory, applied to audio-visual education. Research in audio-visual communication is analyzed. PREREQ: 18 credits in educational media.

EdM 595 Independent Studies in Instructional Media (1-3)

EdM 600 Research Report (2)

Reading

Dr. Gelfand, Coordinator of the Reading Program.

PROFESSORS

Jane K. Gelfand, Ed.D.
Lehigh University
Joseph C. Hall, Ed.D.
Temple University

ASSOCIATE PROFESSORS

K. Eleanor Christensen, Ph.D.
University of Delaware
Mary A. Keetz, Ph.D.
University of Pennsylvania

ASSISTANT PROFESSOR

Robert J. Szabo, Ed.D.
Lehigh University

Through its Graduate Reading program, the School of Education offers: (1) the Master of Education degree with a major in reading and (2) Reading Specialist Certification. Students who complete either program are recommended for Pennsylvania Certification as Reading Specialists.

These programs prepare candidates to serve in special reading positions and as classroom teachers of reading in elementary or secondary schools.

Admission to the Degree Program

1. The student must possess an Instructional I Certificate.

2. The Graduate Record Examination Aptitude Test and/or the Miller Analogies Test is required. Scores must be on file within the student's first semester or session.

3. Courses required within the pre-candidacy period are: EdR 510, 511, 516, and EdF 500.

4. An overall average of 2.75 and a minimum of 3.00 in reading courses must be maintained during the pre-candidacy period.

Degree Program Requirements

In addition to meeting degree requirements of the College the candidate must:

1. Successfully complete the reading curriculum and any additional courses which may be required by the Reading faculty.

2. Achieve an overall average of at least 2.75 and an average of 3.00 in reading courses.
3. Perform satisfactorily on the comprehensive examination in reading.

Responsibility for meeting all requirements at the proper time rests with the student.

The Comprehensive Examination
The student is eligible for the comprehensive examination upon completion of the prescribed work and the recommendation of the adviser. The examination is given the first Saturday in November and the second Saturday in March. Applications for the examination must be made in writing to the coordinator by September 1 for the November examination and January 1 for the March examination.

Candidates who fail the comprehensive examination are permitted one re-examination within a two-year period. Upon a second failure, candidates are dropped from the degree program.

MASTER OF EDUCATION IN READING

(35 Semester Hours)

Professional Education Requirements: EdF 500 and EdF 510 — 5 semester hours

Area of Concentration Requirements: EdR 510, 511, 514 or 515, 516, 521, 522, 541 — 21 semester hours

Area of Concentration Electives: Selected, under advisement, from EdR 525, 526, 540, 542, 590 — 3-6 semester hours

Related Study Requirements: At least one course from Group A and one from Group B must be selected, under advisement — 6-9 semester hours

Group A (Language Arts): EdE 522, 543, 548, 549, 583, Lit 550, Lit 551, Eng 690
Group B (Related Areas): EdA 571, EdC 545, EdE 551, EdE 553, EdE 554, EdU 501

READING SPECIALIST CERTIFICATION

(30 Semester Hours)

Requirements for the Certification Program:

1. The student must possess an Instructional I Certificate.
2. Courses required within the first 15 hours are EdR 510, 511, 514 or 515, and 516.
3. An overall average of 2.75 and a minimum of 3.00 in reading courses must be maintained.

4. In order to obtain the certificate the student must successfully complete the program shown above under "Master of Education in Reading" except that he is not required to take the two courses in Professional Education.
5. The student must perform successfully on the competency examination.

Offerings in Reading

EdR 510 Foundations in Reading Instruction: K-12 (3)
Psychology and pedagogy of reading instruction and their relation to the reading-thinking process. The nature of the reading process; the nature of the learner; learning theories.

EdR 511 Current Practices in Teaching Developmental Reading (3)
Theoretical basis underlying developmental reading. Application of informal assessments, classroom organization, instructional materials, and teaching techniques. PREREQ: EdR 510.

EdR 514 Reading in the Content Areas: Elementary (3)
The specialized reading skills, reading problems, teaching techniques, and reading activities in content subjects in the elementary grades. PREREQ: EdR 511.

EdR 515 Reading in the Content Areas: Secondary (3)
The specialized reading skills, reading problems, teaching techniques, and reading activities in content subjects at the secondary level. PREREQ: EdR 511.

EdR 516 Reading Disabilities (3)
Lecture and demonstration, concerned with the nature of reading disabilities and diagnosis and remediation of reading problems. PREREQ: EdR 511.

EdR 521 Reading Clinic Practicum and Seminar I (3)
A laboratory course. Diagnosis of reading difficulties of elementary and secondary students with reading problems. Major attention given to diagnosing corrective cases and writing case reports. PREREQ: EdR 514 or 515; EdR 516.

EdR 522 Reading Clinic Practicum and Seminar II (3)
Continuation of EdR 521. Opportunities to develop specific techniques for correcting various types of reading disability cases. PREREQ: EdR 521.

EdR 525 Reading for the Disadvantaged (3)
Historical, cultural, and biological contexts of current issues as they relate to language competency programs, evaluation, and funding for disadvantaged learners. PREREQ: EdR 510 or adviser's approval.

EdR 526 Reading Readiness and Early Childhood Educational Experiences (3)
A course concerned with children's readiness for initial reading instruction. Emphasis on instructional recommendations and implementations for a range of abilities. PREREQ: EdR 511 or permission of instructor.

EdR 540 Seminar in Reading (3)
Critical examination of trends, opinions, and current research in the teaching of reading. PREREQ: EdR 522 or adviser's approval.

EdR 541 Organization and Operation of Reading Programs: K-12 (3)
Practical application of the reading specialist's role in organizing and operating K-12 reading programs. Emphasis on the use of the total school community in meeting individual reading needs. PREREQ: EdR 522 or adviser's approval.

EdR 542 Seminar in Reading Research (3)
A seminar in the basic techniques and sources of research in reading. Exposure to significant research in the field. PREREQ: EdR 521 or permission of instructor.

EdR 590 Independent Study and Research (1-6)
Individual investigation and exploration of related reading research. Topic must be approved by the supervising instructor prior to registration.

Secondary Education and Professional Studies

Dr. Mississyan, Chairman
Dr. Cleary, Assistant Chairman

PROFESSORS

Michael F. Bannon, Ed.D.
George Peabody College for Teachers
Walter E. Buechele, Jr., Ed.D.
Temple University
Mary E. Cleary, Ed.D.
George Washington University
Harry H. Deischer, Ed.D.
University of Pennsylvania
Thomas J. Francella, J.D.
University of Baltimore
Charles W. Good, Ed.D.
Temple University
Bernard M. Gross, Ed.D.
Temple University
John A. Lander, Ph.D.
University of Pennsylvania
Robert S. Means, Ph.D.
University of Alabama
Kegham A. Mississyan, Ph.D.
University of Pennsylvania
Walter N. Ridley, Ed.D.
University of Virginia
George M. Thomas, Ed.D.
Temple University
Thomas B. Williams, Ed.D.
Temple University

ASSOCIATE PROFESSORS

Luther R. Barth, M.Ed.
Loyola University
Richard C. Gleockler, M.Ed.
Bucknell University
John Holingjak, Jr., Ed.M.
Temple University
Reynold D. Paganelli, C.A.S.
Johns Hopkins University
Shirley Ann Walters, Ed.D.
Temple University

ASSISTANT PROFESSORS

Jack P. Edwards, M.Ed.
West Chester State College
Janet C. Seidel, Ed.D.
Temple University
Elizabeth S. Swing, M.A.
Radcliffe College

INSTRUCTORS

Yi-Ming Hsu, Ed.D.
University of Georgia
Frederic W. Yocum, Ed.D.
Temple University

The Department of Secondary Education and Professional Studies is responsible for the professional courses offered for certification on the secondary level and in the Master of Education degree programs having academic concentrations. The department also offers other professional course work required in all M.Ed. programs and some courses designed for election by educators and others who wish to develop new insights and/or to strengthen professional skills.

In addition the department offers the degree of Master of Education in Secondary Education, a program introduced in August, 1973.

MASTER OF EDUCATION

(Secondary Education—Academic Subject Majors)

The Master of Education program is offered with academic concentrations in English, French, German, Latin, Spanish, biology, geography, mathematics, and social science (with concentrations in anthropology/sociology, history, political science, or psychology). This program is offered cooperatively by the School of Education and the Schools of Arts and Letters, Sciences and Mathematics, and Social and Behavioral Sciences. The academic requirements for each concentration are found under the respective department.

This degree affords the student opportunity to strengthen his knowledge in his major subject matter field, as well as his professional knowledge and competence.

The student earning the degree in this program must be advised both by the department of his subject field and by the Department of Secondary Education and Professional Studies. It is the responsibility of the student to arrange for conferences with both departments in planning his program.

Requirements for the Master of Education

(Secondary Education—Academic Subject Majors)

(34 Semester Hours)

		Semester Hours
I	PROFESSIONAL EDUCATION REQUIREMENTS*	10-12
	A. EdF 510 Educational Foundations (3)	
	B. A minimum of one course from each of the following groups:	
	Group 1	
	EdF 520 Comparative Education (3)	
	EdF 521 Contemporary British Education (3)	

* Chosen in conference with the adviser in secondary education, according to the needs of the student

EdF 523 Education Behind the Iron Curtain (3)
EdF 580 History of American Education (3)
EdF 581 Philosophy of Education (3)
EdF 582 Seminar in the History of the Problems of Education (3)
EdF 589 Sociological Foundations of Education (3)

Group 2

EdF 503 The Emerging Curriculum (3)
EdF 507 Values Clarification in Human Relations (3)
EdF 509 Contemporary Teaching Trends (3)
EdP 550 Advanced Educational Psychology (3)
EdP 557 Essentials of Learning (3)
EdP 559 Constructing and Evaluating Behavioral Objectives (3)
EdP 560 Behavior Modification (3)
EdP 569 Adolescent Development and Learning (3)
EdS 524 Supervision of Student Teaching (3)
EdU 502 Human Relations in the School and Community (3)

Group 3

EdC 567 Group Dynamics (3)
EdF 504 Middle School Workshop (3)
EdF 505 Individually Prescribed Instruction (3)
EdF 515 Federal and State Role in Education (2)
EdF 570 The Community/Junior College (3)
EdF 590 School Law (3)
EdS 502 Secondary School Curriculum (3)
EdS 506 The Junior High School (3)
EdU 501 Curricular Adaptations for the Disadvantaged (3)

II	SUBJECT MATTER CONCENTRATION	20-22
	A. Methods and Materials of Research (2-3)	
	B. Academic Subject (18-20)	
	(See respective academic department for details)	
III	ELECTIVE (Professional or Academic)**	0-4

COMPREHENSIVE EXAMINATIONS
The student must perform satisfactorily on the final comprehensive examinations covering the subject-matter concentration and the professional-education requirements.

MASTER OF EDUCATION IN SECONDARY EDUCATION

(34 Semester Hours)

This program provides another option within the Master of Education shown immediately above, and is designed primarily to strengthen the professional knowledge, skills, and understandings of the

** Chosen in conferences with the secondary education and academic advisers, according to the needs of the student.

graduate student and of teachers in service, and to make their preparation more relevant to a variety of educational situations. It also provides the professional background for dealing effectively with problems encountered in secondary schools. Through its 14 semester-hour elective area, the program affords the student opportunity to strengthen his knowledge in his subject-matter field.

Admission to the Program

In addition to meeting admission requirements of the College the student must:

1. Be approved by the Department of Secondary Education and Professional Studies for graduate work.
2. Attain an acceptable score on the Graduate Record Examination or the Miller Analogies Test.

It is strongly recommended that the applicant have a valid teaching certificate. Applicants whose certification is not in secondary education may, at the department chairman's discretion, be required to take course work beyond the minimum semester-hour requirements for the degree.

Upon admission the student will be assigned an adviser who will help him to outline an appropriate program. All work for the program must be approved by the adviser and the departmental Graduate Committee.

Requirements for Admission to Degree Candidacy

During the pre-candidacy period the student must:

1. Complete these required courses: EdF 500, 510, and EdP 550.
2. Achieve a minimum overall average of 2.75 and a minimum average of 3.00 in the required courses and in courses in Area One or Area Two.
3. Show evidence of academic, personal, and professional qualities which satisfy the adviser and the departmental Graduate Committee.

Comprehensive Examination

Students must perform satisfactorily on a written comprehensive examination, which is given at least once in each semester and in Regular Session of summer. The examination is always given at 6:00 P.M. on Tuesday of the second week of the semester or session.

Application forms for the comprehensive examination are available from the department and must be filed with the department by December 1 for spring semester, May 1 for Regular Session, and July 14 for fall semester.

To be eligible the student must have:

1. Taken the required courses: EdF 500, 510, and EdP 550.
2. Completed 28 semester hours of work including the 8 semester

hours of required courses and 12 semester hours from Area One or Area Two.
3. Attained a minimum overall average of 2.75 and a minimum average of 3.00 in the required courses and the courses in Area One or Area Two.
4. Received his adviser's recommendation and the departmental Graduate Committee's approval.

Students who fail the comprehensive examination are allowed a second attempt. A second failure terminates candidacy.

MASTER OF EDUCATION IN SECONDARY EDUCATION

(34 Semester Hours)

Required Courses: EdF 500, 510, EdP 550 — 8 semester hours

Area of Concentration: A minimum of 12 semester hours must be selected from one of the following two areas:

Area One: EdF 515, 520, 521, 523, 570, 580, 581, 582, 589, 590

Area Two: EdF 503, EdF 504, EdF 505, EdF 507, EdF 509, EdM 511, EdP 557, EdP 559, EdP 560, EdP 569, EdS 502, EdS 506, EdS 524, EdU 501

Electives: 14 semester hours. The electives may be from courses in Area One and Area Two above, or from courses in the student's teaching field. They may also be a combination of both.

Offerings in Secondary Education and Professional Studies

FOUNDATIONS

EdF 500 Methods and Materials of Research in Education (2)
Historical, descriptive, and experimental methods of research. Methods for locating, evaluating, interpreting, and reporting research data. Each student prepares a research prospectus.

EdF 501 Methods and Materials of Research and Study for Elementary Education Majors (3)
Historical, descriptive, and experimental methods of research. Methods for locating, evaluating, interpreting, and reporting research data. Introduction to graduate study for elementary majors.

EdF 503 The Emerging Curriculum (3)
Curriculum trends, beginning in 1951, for grades kindergarten through 12 by means of three comprehensive topics: (1) the curriculum reform movement, (2) emerging curriculum theory and practice, and (3) the educational reform movement.

EdF 504 Middle School Workshop (3)
Philosophy, administration, curriculum, staff, and facilities necessary for the most efficient educational experience in the intermediate levels of school. *Summers, on demand.*

EdF 505 Individually Prescribed Instruction (3)
Individually prescribed instructional techniques as applied in the classroom and

intensive learning centers. Techniques of academic diagnosis, prescription production, and electronic learning. Students will have an opportunity to work directly with hardware and software components of an intensive learning center. (May be arranged as a workshop.)

EdF 507 Values Clarification in Human Relations (3)
Knowledge of the theories of the values clarification processes as defined by Simon and others. Skills in application of the values clarification processes in personal decisions, in the classroom, and in society. (May be arranged as a workshop or as modularized independent study.)

EdF 509 Contemporary Teaching Trends (3)
Team teaching, programmed instruction, and various media of communication in the elementary and secondary schools are evaluated. Effective adaptation to newer practices is emphasized.

EdF 510 Educational Foundations (3)
History of education, integrated with educational philosophy and thought; the long evolution of educational theory and issues.

EdF 515 Federal and State Role in Education (2)
The past, current, and future role of the federal and state governments in education in the United States. Emphasis on the applications to the Commonwealth of Pennsylvania. Impact of federal legislation since 1958.

EdF 520 Comparative Education (3)
Major problems of education in a number of other countries are related to similar problems in the United States. Contrasting purposes and philosophies and differences in organization and administration are analyzed.

EdF 521 Contemporary British Education (3)
Consideration of the philosophy of British education today and the ways it has changed in past years. Present-day curricula and administrative structure of the various types of British schools are explored.

EdF 523 Education Behind the Iron Curtain (3)
Educational structure in the Soviet Union, past, present, and future. Khrushchev's educational reforms and the return to the ten-year school. Educational structure in certain Eastern European countries also included.

EdF 570 The Community/Junior College (3)
An analysis of the programs, problems, and students of a two-year college. Emphasis on the development, special philosophies, and current issues relating to the community or junior college. Designed for students preparing to be teachers and/or administrators in these colleges.

EdF 580 History of American Education (3)
Nature and direction of American education, studied through individual and group research.

EdF 581 Philosophy of Education (3)
Selected philosophies and their influence on educational principles and practices in a democratic social order.

EdF 582 Seminar in the History of the Problems of Education (3)
Historical study of the recurrent problems of education and their solutions. Implications of these solutions for contemporary American educational problems.

EdF 589 Sociological Foundations of Education (3)
Study of the socio-cultural influences on the structure of American educational institutions.

EdF 590 School Law (3)
Legal structure for educational organization on state, intermediate, and local levels. Legal status of the board of education; legal responsibilities of the teacher; legal responsibilities between the board of education and the student.

EDUCATIONAL PSYCHOLOGY

EdP 550 Psychological Foundations of Education (3)
Processes by which skills, understandings, concepts, and ideals are acquired; teaching practices in relation to basic research concerning learning; similarities and differences in theories of learning. PREREQ: a course in educational psychology, EdF 500.

EdP 557 Essentials of Learning (3)
Study of the applications of learning theory to classroom teaching with emphasis on those principles derived from classical and operant conditioning. Retention and transfer of learning also considered.

EdP 559 Constructing and Evaluating Behavioral Objectives (3)
Consideration and evaluation of behavioral objectives. Students write and evaluate their own objectives under individual guidance. (May be arranged as a workshop.)

EdP 560 Behavior Modification (3)
Study and implementation of principles of classical and operant conditioning to the modification of student behavior in residential and educational settings. Emphasis on such areas as classroom discipline, student values, and student study habits. (May be arranged as a workshop.)

EdP 569 Adolescent Development and Learning (3)
Mental, physical, emotional, and social development and behavior of the adolescent with emphasis on various types of learning. Case studies are used.

SECONDARY EDUCATION

EdS 502 Secondary School Curriculum (3)
Current practices and trends in reorganizing the secondary school curriculum in the major academic areas. The various integrating techniques. Curriculum development.

EdS 506 The Junior High School (3)
Development and functions of the junior high school; philosophy underlying its development. Curriculum, teaching assignments, characteristics of pupils, and special problems. PREREQ' a course in adolescent development.

EdS 524 Supervision of Student Teaching (3)
Designed for teachers who cooperate or expect to cooperate in West Chester's student teaching program. Basic principles, practices, materials, and resources for an effective student teaching program. PREREQ: certification for teaching.

EdS 590 Independent Study (1-3)
Enrollment by permission only; number of credits determined by department.

Special Education

Dr. Freeman, Coordinator

PROFESSOR

Howard Freeman, Ed.D.
University of Pennsylvania

ASSOCIATE PROFESSOR

Martin Zlotowski, Ph.D.
Michigan State University

ASSISTANT PROFESSOR

Deborah Nickles, M.S.
Syracuse University

LEVEL I CERTIFICATION PROGRAM: EMOTIONAL DISTURBANCE

This non-degree program is designed for those who are interested in working for certification to teach emotionally disturbed children (K-12). To qualify for the program a student must hold a baccalaureate degree from an accredited college and present an overall cumulative average of 2.75. The program requires a year of graduate work which is taken concurrently with a teaching experience under an Intern Certificate, valid for teaching in Pennsylvania public and private schools. The student's past academic experiences and demonstrated competencies are used to evaluate and determine individually prescribed programs of study, developed from the following offerings: EdA 501, 540, 541, 544, 550, 551, 555.

As of 1975 the program is a periodic, not a regular, offering.

Those interested should make application through the Special Education Office.

Offerings in Special Education

With the exception of EdA 550 and 551, the following courses may be taken as electives by anyone in a graduate program, subject to approval from the coordinator and the student's chairman.

EdA 501 Prescriptive Teaching (3)
An attempt to guide the teacher to an awareness of the methods by which medical, psychological, behavioral, and academic diagnosis may be converted into relevant educational terms providing for adequate follow-through on specific recommendations.

EdA 540 Workshop in Special Education (4)
An intensive program of observation and instruction of mentally retarded or physically handicapped children. Instructional experience with handicapped children is

combined with lecture, demonstration, films, guest speakers, and case study. Primarily for in-service teachers. PREREQ: permission of coordinator.

EdA 541 Psychology of Exceptional Children (3)
Psychology of children whose intellectual, physical, social, and/or emotional characteristics are significantly deviant from those of children whose needs are met through normal educational routes.

EdA 544 Classroom Management (3)
Exploration of current practices in the management and modification of behavior. The professional's role in achieving a better basis for meaningful communication with the special child. Problems which may interfere with teacher effectiveness are discussed.

EdA 550 Teaching Supervision and Seminar I (6)
A graduate practicum required for (and limited to) those enrolled in the program leading to Level I Certification: Emotional Disturbance.

EdA 551 Teaching Supervision and Seminar II (6)
Continuation of EdA 550. PREREQ: EdA 550.

EdA 555 Psychology of Learning Disabilities (3)
Identification, education, and treatment of the child with minimal brain dysfunction. Emphasis on recognition of the specific learning and emotional needs which such a child presents.

EdA 571 Childhood Learning Disabilities (3)
The study and education of the child with perceptual problems and/or minimal brain damage. PREREQ: a course or courses in the psychology of exceptional children.

EdA 573 Developmental Assessment of Children with Learning Problems (3)
Diagnostic procedures and subsequent educational prescriptions useful with children experiencing learning difficulties.

EdA 574 Behavior Management in the Classroom (3)
Etiology and implications of behavioral problems in educational settings. Introduction to approaches aimed at producing change.

EdA 575 Mental Health in Schools (3)
Factors affecting the mental health of both children in the classroom and their teachers. Effective means of identifying and responding to problems are brought out through a seminar approach. The course also explores the effect of mental health on classroom climate.

EdA 590 Independent Study (1-3)

Urban Education

Coordinator: F. Williams Leeds, Associate Professor,
M.A., University of Pennsylvania

Offerings in Urban Education

EdU 501 Curricular Adaptations for the Disadvantaged (3)
Curricular innovations which attempt to aid the culturally disadvantaged in developing skills necessary for maximal personal adjustment to society. Survey of urban problems and their relationships to inner-city schools.

EdU 502 Human Relations in the School and Community (3)
Intensive study of the inner-city community and its close relationship with the school society. Analysis of prejudice and its implications to community and school power structures.

EdU 590 Independent Study (1-3)

English

Dr. McKenty, Chairman
John P. Field, Graduate Coordinator

PROFESSORS

Dorothy D. Bailey, Ph.D.
University of Wisconsin
Thomas E. Berry, Ph.D.
University of Pittsburgh
Joseph Falgie, Jr., Ph.D.
University of Pennsylvania
William N. Garrett, Ph.D.
Columbia University
Paul D. Green, Ph.D.
Harvard University
J. Bernard Haviland, Ph.D.
Dublin University
Wayne Hayward, Ph.D.
University of Birmingham (England)
William H. Henry, Jr., Ph.D.
Temple University
Alice B. Markow, Ph.D.
University of Pennsylvania
Lynette F. McGrath, Ph.D.
University of Illinois
David E. McKenty, Ph.D.
University of Pennsylvania
Katharine D. Newman, Ph.D.
University of Pennsylvania
Bernard S. Oldsey, Ph.D.
Pennsylvania State University
S. Keith Taylor, Ed.D.
Temple University
Powell S. Thomas, Ph.D.
University of Pennsylvania
Robert H. Weiss, Ph.D.
Temple University
Theodora Lee West, Ph.D.
University of Pittsburgh
Elsie B. Ziegler, Ed.D.
Temple University

ASSOCIATE PROFESSORS

Michael W. Brooks, Ph.D.
University of Toronto
William D. Fordyce, Ph.D.
Harvard University
John T. Kelly, Ph.D.
University of Oklahoma
John P. Kent, Ph.D.
University of Illinois
Dwight L. McCawley, Ph.D.
University of Illinois

The Department of English offers the Master of Arts degree in English and, in cooperation with the School of Education, the Master of Education degree in English. The department also cooperates in the offering of an interdisciplinary program leading to the Master of Arts degree in Teaching English as a Second Language. *(See Teaching English as a Second Language.)*

MASTER OF ARTS IN ENGLISH

(30 Semester Hours)

Candidates must pass the Graduate Record Examination (afternoon test in advanced literature) with a satisfactory score and a written

comprehensive examination covering four of the following five areas:

I. English Language Structure and History; Old and Middle English Literature
II. Renaissance and 17th-Century English Literature
III. Eighteenth and 19th-Century English Literature
IV. American Literature to 1900
V. Modern Literature (British, American, Continental)

The examination is offered the second Wednesday of October, April, and July. Upon a second failure the student must petition the Department of English for the opportunity of a third and final attempt.

Eng 500 is required and must be taken at or before the completion of 9 graduate credits. Under advisement the student develops an elective area of 27 semester hours in English language and literature. Up to 6 hours of these electives may be chosen from 400-level courses approved for graduate credit (see Offerings in English, below). The M.A. candidate also has the option of selecting up to 6 hours of his electives from related fields.

MASTER OF EDUCATION IN ENGLISH

(34 Semester Hours)

The candidate must pass the Graduate Record Examination (afternoon test in advanced literature) with a satisfactory score, and a written comprehensive examination. The comprehensive will cover teaching methodology and three of the five areas listed under the M.A. program above.

The comprehensive examination is offered the second Wednesday of October, April, and July. If the student fails it twice he must petition the Department of English for the opportunity of a third and final attempt.

The program is developed under advisement. If deficiencies seem evident the candidate may be asked to take graduate and/or undergraduate courses beyond the normal 34-hour program. All students are required to take Eng 500 and Eng 501. Eng 500 must be taken at or before completion of 9 graduate credits. An 18-hour elective area in English language and literature is chosen, under advisement, to suit the candidate's interests and goals. Up to 6 hours of electives may be selected from 400-level undergraduate courses that have been approved for graduate credit (see Offerings in English, below).

Candidates for the M.Ed. program must also meet the examination and course-work requirements of the School of Education. These include a minimum of 10 semester hours. For details see page 75 in School of Education.

Offerings in English

See also Linguistics

Graduate English courses listed in the 500 series are lecture courses; those in the 600 series, seminars. This distinction in numbering indicates pedagogical procedure rather than level of difficulty.

ENGLISH

Symbol: Eng

500 Methods and Materials of Research (3)
Basic techniques and procedures in research. The major types of research and the methods of locating, evaluating, and interpreting evidence. Includes the preparation of a research outline and paper.

501 Modern Techniques for the Teaching of English (3)
Techniques of teaching language arts, composition, and literature in the secondary school. Practice in planning and designing units and courses of study. Exploration into the latest research in teaching English.

502 History of the English Language (3)
Review of the major influences on the development of the English language.

503 Old English Language and Literature (3)
An introductory study of the language through a reading of selected religious and secular poetry and prose. PREREQ: Eng 502 or permission of instructor.

507 Middle English Language and Literature (3)
An introductory study of the language (1150-1450) through a reading of selected texts (exclusive of Chaucer). PREREQ: Eng 502 or permission of instructor.

508 English as a Second Language (3)
Implications of the nature of language in teaching English to speakers of other languages. Methods and materials for teaching English as a second language. PREREQ: Lin 501 or permission of instructor.

510 Modern English (3)
A study of the development of the English language from 1450 to the present (exclusive of American English). PREREQ: Eng 502 or permission of instructor.

515 Structure of Modern English (3)
A detailed analysis of the modern descriptive approach to the study of English grammar and how it compares with the traditional approach.

519 Studies in American English (3)
Historical processes in the development of American and British English. Regional and social dialects of American English. Usage and sociolinguistics. PREREQ: Eng 502 or permission of instructor.

580 English Language Workshop (1-4)
Workshop to survey recent developments and newer concepts in English linguistics for teachers. Variable structure and credit, by arrangement with individual school districts.

590 Independent Studies in Language, Linguistics, Specialized Methods of Teaching (1-3)
Research projects, reports, readings in areas of language, linguistics relating to the structure of English, and in methodology for the teaching of secondary English. PREREQ: approval of instructor and coordinator of graduate studies in English.

LITERATURE

Symbol: Lit

511 History of Criticism I (3)
An historical study of literary criticism and aesthetic theory from Aristotle to Johnson.

512 History of Criticism II (3)
An historical study of major texts and movements in literary criticism from Sainte-Beuve to Hartman and contemporaries.

514 American Literary Movements (3)
Major movements in the development of American literature. Influence of leading writers on literary concepts, trends, and critical dicta.

515 Comparative Literature (3)
Studies in international literary and cultural relations; the characteristics and relations of universal literary types, themes, and genres.

516 Major 20th-Century American Poets (3)
Robinson, Frost, Pound, Eliot, Crane, Stevens, Cummings, Williams, and others. Critical standards and theories of poetry in the century.

519 Major 20th-Century Irish Writers (3)
A comprehensive study of significant Irish writers of the 20th century: Yeats, Joyce, O'Casey, Synge, O'Connor, O'Faolain.

520 19th-Century British Novel (3)
Development of techniques in the British novel from Scott to Hardy.

522 Chaucer (3)
A study of a selection of the *Canterbury Tales* and of *Troilus and Criseyde*.

524 British and Continental Short Story (3)
The short-story form; its origin and development. Current trends. Influences of German, French, and Russian writers upon the British form.

525 Biography (3)
Survey of biographical writings from Plutarch to the present. Origins and trends.

526 16th-Century Poetry and Prose (3)
A survey of the major poetry and prose written in England during the Tudor period: Skelton to Shakespeare.

527 17th-Century Poetry and Prose (3)
A study in depth of the major 17th-century English poets and prose writers from Donne to Milton.

529 Victorian Poetry and Prose I (3)
A study in Victorian poetry and prose (exclusive of the novel) to 1870: Tennyson, Browning, Ruskin, Arnold, Carlyle, Newman, Darwin, Swinburne.

530 Victorian Poetry and Prose II (3)
A study in the Victorian poetry and prose (exclusive of the novel) of the later 19th Century: Hopkins, Pater, Morris, Wilde, Shaw, Hardy.

531 Shakespeare's Predecessors in Drama (3)
Development of the drama from classical antiquity to Shakespeare. The nature, structure, and other aspects of the principal types of pre-Shakespearean drama.

533 Romantic Poetry and Prose (3)
The poetry and prose of the early 19th century with emphasis upon the five major poets (Wordsworth, Coleridge, Byron, Shelley, Keats) and three major essayists (Lamb, Hazlitt, De Quincey).

535 20th-Century American Writers (3)
Major writers and literary movements from 1900 to present.

536 20th-Century Drama (3)
Principal British and American playwrights from Shaw to Pinter and Albee.

539 18th-Century Poetry and Prose (3)
A study of the literature of the era, with emphasis on the cultural context, aesthetic theory, and the evolution of poetic techniques.

540 Restoration and 18th-Century Drama (3)
Critical history of British drama from the reopening of the theaters to Sheridan. Major playwrights and study of theater history.

543 Shakespeare's Comedies and Poems (3)
Nine comedies analyzed. The poems read in relation to Shakespeare's developing dramatic and poetic power.

544 Shakespeare's Tragedies and Histories (3)
Four histories and seven tragedies read with analysis of dramatic and poetical effects.

547 Jacobean and Caroline Drama (3)
English dramatic literature from 1603 to 1642. Includes Jonson, Marston, Webster, Chapman, Middleton, Rowley, Tourneur, Ford, Shirley, Beaumont, and Fletcher.

550 Literature for the Elementary School (3)
The content and approach of the literature program in the elementary school.

551 Literature for the Secondary School (3)
An examination of the literary interests of the secondary school student. A discussion of the works of major writers who appeal to the teen-age student.

552 Modern Afro-American Literature (3)
An intensive study in themes and trends in modern Afro-American literature.

590 Independent Studies in Literature: English and American (1-3)
Research projects, reports, specialized readings. PREREQ: approval of instructor and coordinator of graduate studies in English.

SEMINARS

Symbol: Lit

601 Seminar: Applied Literary Criticism (3)
Study of various methods of literary analysis, with emphasis on the application of these methods in response to specific works of literature chosen from the principal genres of poetry, fiction, and drama.

605 Seminar: Spenser and Milton (3)
The major works of Spenser and Milton studied in relation to the intellectual climate of the Renaissance. Emphasis on *The Faerie Queene* and *Paradise Lost.*

606 Seminar: Beowulf (3)
An analysis of the entire poem in Old English. Emphasis on the artistic, linguistic, and historic values. PREREQ: Eng 503 or equivalent.

607 Seminar: Major Renaissance Writers (3)
A study in depth of five major figures in the Renaissance. Intellectual background and literary influences.

617 Seminar: Literary Spokesmen for American Ideas (3)
Intensive study of American writers who have depicted and interpreted major intellectual currents in American culture. Modern writers who deal with problems of American life.

623 Seminar: 18th-Century British Novel (3)
A study of the rise of the novel and its development in the 18th century. Major novelists treated: Defoe, Richardson, Fielding, Smollett, Sterne.

632 Seminar: Hemingway and Faulkner (3)
The works of Hemingway and Faulkner and the literary relationship of these works.

634 Seminar: Twain and James (3)
The works of Mark Twain and Henry James, and representative literary criticism.

637 Seminar: Emerson and Thoreau (3)
The works of Emerson and Thoreau; writers associated with them.

638 Seminar: Hawthorne and Melville (3)
A study of their works and representative literary criticism.

646 Seminar: Shakespearean Literary Criticism (3)
Survey of Shakespearean critical schools; student analysis of a play's interpretation or an interpretive problem.

690 Seminar in English Literature (3)
Topic announced when offered.

695 Seminar in American Literature (3)
Topic announced when offered.

Any of the following 400-level undergraduate courses (but not more than 6 semester hours of credit) may be taken for graduate credit toward the degree.

Eng 405 Writing Seminar (3)
Eng 406 Writing Seminar in the Novel (3)

Lit 400 English Seminar (3)
(with approval of instructor and coordinator of graduate studies in English)

Foreign Languages

Dr. Frieman, Chairman
Dr. Lombardi, Graduate Coordinator

FRENCH

PROFESSORS

Madelyn Gutwirth, Ph.D.
Bryn Mawr College
Alfred D. Roberts, Ph.D.
University of Pennsylvania

ASSOCIATE PROFESSOR

Marianne H. Kulaski, M.A.
Villanova University; Certificat d'etudes francaises, *University of Geneva*

ASSISTANT PROFESSOR

Robert Greene, M.A.
University of Pennsylvania

GERMAN

ASSOCIATE PROFESSOR

Richard A. Schneider, M.A.
University of Heidelberg; Diploma, *University of Barcelona*

ASSISTANT PROFESSOR

Alois H. Kulhanek, M.A.
University of Political and Social Science (Prague); Certificate, *Charles University* (Prague)

LATIN

PROFESSOR

Walter E. Frieman, Jr., Th.D.
Philadelphia Divinity School

SPANISH

PROFESSORS

Ronald P. Lombardi, Ph.D.
University of Pennsylvania
Benjamin Nunez, Ph.D.
Columbia University
Philip D. Smith, Jr., Ph.D.
Ohio State University

ASSOCIATE PROFESSOR

Jorge Escorcia, M.A.
Boston University

The Department of Foreign Languages offers two degree programs, one leading to the Master of Education in French, Spanish, German, or Latin, and the other to the Master of Arts in French or Spanish.

The department also cooperates in the offering of an interdisciplinary program leading to the Master of Arts degree in Teaching English as a Second Language. *(See Teaching English as a Second Language.)*

MASTER OF EDUCATION IN FRENCH, SPANISH, GERMAN, OR LATIN

(34 Semester Hours)

The M.Ed. program requires Methods and Materials of Research in Second Language Education (Lan 500), Techniques of Second Language Teaching (Lan 503), and 18 semester hours in the area of concentration. The concentration may be designed to the student's particular interests and needs, but in French, Spanish, or German it must include one course each from Groups A, B, C, and D. In Latin the 18-hour concentration is developed from Groups A and B under advisement. Majors in any of the languages may also elect from "Courses Common to all Languages" (see below) for their concentration. Certain advanced undergraduate foreign language courses (400-level) are open for graduate credit with permission. (See "Policy on Undergraduate-Level Courses.")

At least 10 semester hours of course work in education are required. See page 75 in School of Education.

COURSES COMMON TO ALL LANGUAGES

Introduction to Linguistics (Lin 501) and courses Lan 502 through Lan 600. (See Offerings in Foreign Languages.)

FRENCH

Group A
Fre 511-12-13-14-15-16

Group B
Fre 520-21-22-23-24-25

Group C
Fre 530-31-32-33-34

Group D
Fre 540-41-42-43-44

GERMAN

Group A
Ger 511-13-14-15

Group B
Ger 520-21-22-23-24-25-26

Group C
Ger 531-32-33-34-35

Group D
Ger 540-41-42-43-44-45

LATIN

Group A
Lat 503-11-12-14

Group B
Lat 513, 515, 520 through 531, and 535, 536

SPANISH

Group A
Spa 510-11-12-14

Group B
Spa 520-21-22-23-24-25

Group C
Spa 530-31-32-33-34

Group D
Spa 540-41-42-43-44-45

MASTER OF ARTS IN FRENCH OR SPANISH

(30 Semester Hours)

The M.A. programs in French or Spanish provide for either a thesis

or non-thesis option. Both require 21 semester hours in the language as follows: Fre or Spa 511 and 6 hours from Groups B, C, and D above. The thesis program includes Lan 610 and an additional elective 3 hours in the concentration. The non-thesis option allows 9 semester hours of electives in the area of concentration.

Electives for both options may also be from "Courses Common to All Languages." (See above.) For the M.A. program Lan 550 is strongly recommended.

Certain advanced undergraduate foreign language courses (400-level) are open for graduate credit with permission. (See "Policy on Undergraduate-Level Courses.")

The candidate for the M.A. degree must pass a reading examination in a second foreign language or must have taken and passed at least one graduate-level course in a second foreign language.

Offerings in Foreign Languages

COURSES COMMON TO ALL LANGUAGES

Symbol: Lan

500 Methods and Materials of Research in Second Language Education (3)
Techniques of research in foreign language education including sources, design, interpretation, evaluation, and reporting of data.

502 Second Languages in the Elementary School (3)
Problems in teaching second languages in the elementary school. Curriculum design, bilingual education, classroom techniques, articulation, materials, testing. Preferably, Lin 501 or equivalent should precede Lan 502.

503 Techniques of Second Language Teaching (3)
Advanced course in recent theoretical bases; methods for teaching beginning and advanced levels; curriculum design and evaluation. PREREQ: Lin 501 or equivalent.

504 Use of Media in Language Teaching (3)
Role of media in language instruction including the tape recorder, language laboratory, television, and the computer.

550 Seminar in Methods and Materials of Research (3)
The principal tools of research in the field of foreign languages and literature. Methods of conducting and reporting research, emphasizing correctness of form and mechanics of scholarly writing.

580 Seminar in Second Language Education (1-4)
Specialized workshop seminar devoted to a particular area of foreign language education.

585 Institute in Second Language Education (4-8)
In-depth study of a particular area of foreign language education.

590 Independent Study (1-3)

600 Research Report (1-2)

610 Thesis (6)

See also Linguistics (Lin)

FRENCH

Symbol: Fre

511 Romance Philology (French) (3)
Historical development of French phonology and morphology from their beginnings to the present. Old French dialects.

512 Explication de Textes (3)
This French technique of textual and stylistic analysis is studied and practiced.

513 Phonetics (3)
Mastery of pronunciation and intonation of the French language through use of the phonetic alphabet. Laboratory drill with recordings of leading phoneticians.

514 Advanced Grammar and Stylistics (3)
A conceptual approach to French grammar. Principles of French grammar and syntax; evaluation of recent changes in grammar and usage.

515 French Civilization (3)
French civilization as reflected in its art, music, philosophy, and socio-political structure.

516 Exercices de Style (3)
A study of French literary styles and the language of French literary criticism.

520 Rabelais (3)
Rabelais: critical studies of his life and works.

521 Moliere (3)
The plays of Moliere; his life and times. History of comedy in France.

522 Voltaire (3)
Major works of Voltaire. Analytical scrutiny of his philosophical views. The impact of Voltaire on the character of Western civilization.

523 Rousseau (3)
The works of Rousseau; their philosophical implications and stylistic character. Analysis of the important critical writings on Rousseau.

524 Balzac (3)
The works of Balzac and a review of Balzacian criticism.

525 Proust (3)
Reading and analysis of *A la recherche du temps perdu.* Survey of Proustian criticism; Proust the man. His place in the history of the novel.

530 French Classical Tragedy (3)
The tragedies of Corneille and Racine; the history of tragedy in France.

531 The French Novel (Through the 19th Century) (3)
History of the novel in France. The works of the major French novelists of the 19th century: Hugo, Stendhal, Balzac, Flaubert, Zola.

532 The 20th Century French Novel (3)
The French novel in the 20th century and the philosophical, social, and aesthetic doctrines which helped to shape this literary form.

533 French Lyric Poetry (3)
Evolution of French lyric poetry, with stress on the 19th century. Forms, techniques, rules of French versification.

534 The Contemporary French Theater (3)
Principal dramatic works of the 20th century, analyzed against the history of the theater in France.

540 Medieval French Literature (3)
Selected literary masterpieces representing the various medieval genres: lyric poetry, epic, romance, allegory, fabliaux, prose chronicle, and drama.

541 French Literature of the Renaissance (3)
Evolution of literary doctrine in the French Renaissance. Influence of various philosophical and aesthetic currents such as Platonism and Petrarchism.

542 Studies in the 17th Century (3)
Selected writers and their works. Development of literary and aesthetic doctrines of the classical period.

543 Studies in the 18th Century (3)
Selected masterpieces of the 18th century. Evolution of social and political ideas as reflected in the literary activity of the period.

544 Studies in the 19th Century (3)
Selected writers of the 19th century in France. An examination of the literary doctrines which evolved through the century.

GERMAN

Symbol: Ger

511 German Philology (3)
German phonology and morphology from their beginnings to the present. Chief characteristics of Gothic, Old Saxon, and Old High German. Analysis of the language of the Low German Heliand and the earliest High German documents.

513 Phonetics (3)

The sounds, forms, and structure of modern standard German, using recorded materials and selected texts.

514 Advanced Grammar and Stylistics (3)
Stylistic qualities of modern German, analyzed in selected texts. Oral and written drill.

515 German Civilization (3)
Social structure of Germany; evolution of its institutions; German achievements in the arts.

520 Goethe (3)
Goethe's works and his development toward classicism. Critical works dealing with his life and writings.

521 Schiller (3)
Schiller's dramatic works and his development toward classicism. Critical works dealing with his life and writings.

522 Rilke (3)
Rilke's poetical works and major critical works which deal with his life and writings.

523 George (3)
George's poetry and major critical works dealing with his life and writings.

524 Thomas Mann (3)
The novels of Mann; works dealing with his life and writings.

525 Bertolt Brecht (3)
The theater of Brecht and critical literature dealing with his life and writings.

526 Kafka (3)
The works of Kafka; criticism dealing with his life and writings.

531 The 20th Century German Novel (3)
The works of the major novelists with particular attention to the writers of "Gruppe 47" (post-World War II writers).

532 The Novelle (3)
The German short story from Goethe to the present, including the German Feuilleton and the post-World War II writers.

533 German Lyric Poetry (3)
Major representative poets of the 19th and 20th century.

534 German Drama of the 19th Century (3)
The works of the major German dramatists of the 19th century.

535 German Drama of the 20th Century (3)
The works of the major dramatists of the 20th century with attention to expressionism and post-World War II dramatists.

540 German Literature of the Middle Ages (3)
German literature of the Middle Ages with emphasis on the Popular and Court Epic and the lyric poetry of the Golden Age.

541 Poetry of the Reformation and the Baroque Period (3)
Literary trends in the Reformation and the Baroque Period.

542 The Enlightenment and Storm and Stress (3)
The masterpieces of the Enlightenment and Storm and Stress. Attention to English influences, especially Shakespeare.

543 The German Romantics (3)
Selected writers of the German Romantic period.

544 19th Century German Realism (3)
Major representative poets of the expressionistic movement.

545 The German Expressionists (3)
Major representative poets of the expressionistic movement.

LATIN

Symbol: Lat

503 Techniques of the Teaching of Latin (3)
Survey and analysis of texts and other materials for teaching Latin. Recent methods for elementary and secondary levels. Curriculum for the secondary level.

511 Comparative Grammar and Syntax of Greek and Latin (3)
The relation of Greek to Latin within the Indo-European family of languages. Survey of the external histories of Greek and Latin. Greek and Latin phonology and morphology with references to principles of syntax.

512 History of the Latin Language (3)
Development of the Latin language from the earliest inscriptions to the 9th century A.D., with some consideration of the prehistoric language and people of Rome.

513 Italic Dialects (3)
The Italic branch of the Indo-European family of languages, exclusive of Latin: Oscan and Umbrian grammar. Italic inscriptions. Brief survey of other dialects.

514 Advanced Latin Prose Composition and Translation (3)
Intensive review of Latin syntax, with translation of English passages into Latin and vice versa.

515 Seminar in Greek and Roman Civilization (3)
A study of literary texts and archaeological documents illustrative of the Greek mind and/or the Roman genius.

520 Works of Julius Caesar (Advanced Course) (3)
The Alexandrine, African, Spanish, Gallic, and Civil Wars, with reference to their political backgrounds.

521 Cicero's Philosophical Essays (3)
Studies in the *Somnium Scipionis, Tusculan Disputations, De Natura Deorum* and *De Officiis,* with reference to Cicero's political theory and practice.

522 Virgil, Ecologues, and Georgics (3)
Studies in the themes and methods of Virgil's *Ecologues* and *Georgics.*

523 The Elegiac Poetry of Ovid (3)
Development of Greek elegy and studies in the elegiac poetry of Ovid.

524 Comedies of Plautus (3)
Origins of "comedy of manners," studies in Plautian comedy and in its influence upon later writers of comedy.

525 Latin Metre and Verse (3)
The formal structure and development of Latin verse from its beginnings to the 20th century. Illustrative readings in early, classical, medieval, and modern Latin poetry.

526 Greek and Latin Epic (3)
The Greek epic from Homer to Apollonius of Rhodes and the Latin epic from Naevius to Virgil. Readings from the classical epics.

527 Roman Historiography (3)
Selections from Sallust, Caesar, Livy, Tacitus, and Suetonius. Origins, development, and influence of Roman historiography.

528 Roman Satire (3)
History of Roman satire and the development of Lucilian Satire. A comparative study of the satires of Horace, Persius, and Juvenal.

529 The Latin Novel (3)
Emergence and development of the Latin novel. Readings in Petronius' *Cena Trimalchionis,* Seneca's *Apocolocynthosis,* the Pompeian Inscriptions, and Apuleius' *Metamorphoses.*

530 Medieval Latin Literature (3)
Latin poetry and prose from the 4th to the 17th centuries, with emphasis on the acquisition of good reading knowledge of medieval Latin in different periods and styles.

531 Latin Epigraphy (3)
Latin inscriptions from the earliest period to the 8th century A.D. A study of the development of the Latin language.

535 Seminar in Interpretation of Latin Literature (3)
Study of various modern approaches to Latin literature. Analysis of selected passages or themes from selected authors.

536 Literary Criticism in Antiquity (3)
Study of selected authors or works with reference to both ancient and modern (e.g., Horace and Quintilian) criticism and interpretation.

SPANISH

Symbol: Spa

510 Advanced Spanish Phonetics (3)
Theoretical and practical approach to phonology, phonetics, and phonetics transcription. Regional and dialectical variations, using Tomas Navarro Tomas' *Manual de pronunciacion espanola.*

511 Romance Philology (Spanish) (3)
The development of Old Spanish from Vulgar Latin and Protoromance, with analysis of Spanish phonology, morphology, and syntax. Readings in Old Spanish.

512 Advanced Spanish Grammar and Sylistics (3)
An informal rapid review of Spanish grammar, with emphasis on problems fundamental to the American classroom. Exercises include idiomatic expression, various levels of style, and translation.

514 Spanish Civilization (3)
Major philosophical and artistic contributions of the Hispanic world to Western civilization. Spain's social and economic institutions, and the character of her people as reflected in the arts.

520 Cervantes (3)
Life and works of Miguel Cervantes Saavedra: *Novelas ejemplares, Ocho comedias y ocho entremeses, La Numancia, La Galatea,* all of which lead to study of the meaning philosophy, and influence of *Don Quixote.*

521 Juan Ruiz, Arcipreste de Hita (3)
The *Libro de Duen Amor* as a major work in Spain's poetic development.

522 Lope de Vega (3)
The Spanish c*omedia,* viewed as an expression of the Spanish people. The popular and national elements of this theater. Lope de Vega as the chief innovator and leading figure of the first half of the Golden Age.

523 Galdos (3)
Benito Perez Galdos: his novels of social reform, enlightenment, and conversion.

524 Valera (3)
Juan Valera's psychological novels, set in 19th century Andalusia.

525 Unamuno (3)
The philosophical ideas of Unamuno studied in his critical essays, plays, and novels.

530 Spanish Comedia of the Golden Age (3)
Survey of the *comedia* before Lope de Vega; the contributions of Lope de Vega; Tirso de Molina and Ruiz de Alarcon; the Baroque theater of Pedro Calderon de la Barca.

531 The Spanish Novel Before Cervantes (3)
Survey of the main trends of Spanish prose before Cervantes. The novels of chivalry, *El Conde Lucanor,* and the "novela sentimental."

532 The Picaresque Novel (3)
The picaresque novel as an indigenous creation of Spain; Lazarillo de Tormes, Guzman de Alfarache, Vida del Buscon; the picaresque novel as a tradition in Spain and an influence in other literature.

533 The Generation of 1898 (3)
The revitalizing forces which took hold in the late 19th century and a study of the works of Unamuno, Azorin, Menendez Pidal, Pio Baroja, Valle Inclan, Benavente, Martinez Sierra, and Ruben Dario.

534 Spanish Lyric Poetry (3)
Spanish lyric poetry, with emphasis on early forms, the Renaissance, Italianate forms, and the blossoming of lyric poetry in the 19th and 20th centuries.

540 Medieval Spanish Literature (3)
The *mester de juglaria* and the *Poema del Cid;* early related epics and the *mester de clerecia;* Spain's early historical chronicles. Beginnings of the Spanish theater.

541 The Renaissance in Spain (3)
Leading proponents of the humanistic spirit in Spain: Nebrija, Erasmus, the brothers Valdes. The Spanish Inquisition, the Renaissance theater and novel: Juan del Encina, Torres Naharro, and la *Celestina.*

542 Spanish Romanticism (3)
The Spanish Romantics and *costumbristas:* Duque de Rivas, Espronceda, Gomez de Avellaneda, Becquer, Larra, Mesonero Romanos. The dramatic novels of Pardo Bazan, Palacio Valdes, Clarin, and Galdos.

543 Contemporary Spanish Theater (3)
The "Ibsenite" and social dramas of the late 19th century represented by the plays of Lopez de Ayala, Jose Echegaray, and Galdos. The transition period headed by Martinez Sierra and the brothers Quintero. Spain's modernistic drama exemplified by Federico Garcia Lorca and Alejandro Casona.

544 Masterpieces and Movements in Spanish Literature (3)
A seminar on the development of Spanish thought and artistic expression through selected masterpieces of literature and art.

545 The Latin American Novel (3)
The development of the novel in Latin America. The colonial period, the period of independence, the romantic period; realism, modernism, *criollismo,* and naturalism.

Geography and Planning

Mr. Grassel, Chairman
Dr. Langdon, Coordinator for Graduate Programs
in Geography and Planning

PROFESSOR

George Langdon, Ph.D.
Clark University

ASSOCIATE PROFESSORS

Elton B. Bentley, Ph.D.
University of Oregon
F. Robert Bielski, M.A.
University of Illinois
Charles W. Grassel, M.S.
University of Pennsylvania
Arthur S. Hawthorne, M.A.
University of Pittsburgh
William J. Rampon, M.A.
University of Oklahoma
John C. Tachovsky, M.Ed.
West Chester State College

The Department of Geography and Planning presents three programs: the Master of Arts in geography; the Master of Arts in social science with a concentration in geography; and — in cooperation with the School of Education — the Master of Education in social science with a concentration in geography.

The Graduate Record Examination is required for admission and diagnostic purposes in all of these degree programs.

MASTER OF ARTS IN GEOGRAPHY

(33 Semester Hours)

The Master of Arts in geography degree is designed for the student who wishes to deepen knowledge of the discipline, to aspire to a non-teaching career, and to pursue additional advanced degree work in the discipline after attaining the master's degree.

The program requires a sequence of five courses in geography, the thesis, demonstrated proficiency in a foreign language or statistics, and provides an elective area.

The required courses are Geo 500-503-505-581-585. The thesis (Geo 610), which is developed in continuing consultation with the candidate's adviser, produces 6 semester hours. The language/statistics requirement is met by passing either a reading proficiency test in French, German, or Spanish, or a course in advanced statistics. Neither option produces credit toward the degree.

The elective area of 12 semester hours is built from geography offerings under advisement. With departmental approval the student may elect courses from geology and/or anthropology.

MASTER OF ARTS IN SOCIAL SCIENCE

Concentration: Geography

(30 Semester Hours)

The Master of Arts in social science is an interdisciplinary degree providing opportunity for the student to broaden his general background in the social sciences. The program is especially valuable to the teacher who wishes to strengthen subject-matter knowledge in more than one academic discipline. The concentration in geography is particularly appropriate for those employed in environmental and planning areas of both industry and government, as well as for the enrichment of cultural backgrounds.

Students who choose the geography concentration are advised by the Department of Geography and Planning.

Requirements

In the research area Geo 500—Methods and Materials of Geographic Research and Geo 581—Seminar in Modern Philosophy of

Geography are required courses. Under advisement an area of 9-12 semester hours of geography electives is developed from offerings shown below. The thesis, for either 3 or 6 credits, may be included in this concentration.

Beyond the discipline 12 semester hours of social science electives are selected, under advisement from the Department of Geography and Planning, from at least two other departments within the School of Social and Behavioral Sciences. Finally, from 0-3 cognate elective hours may be chosen from any School in the College.

MASTER OF EDUCATION IN GEOGRAPHY

(34 Semester Hours)

The student must meet a professional education requirement of 10-12 semester hours. (See Page 75, School of Education.)

A geography concentration of 20-22 semester hours requires Geo 500—Methods and Materials of Geographic Research, Geo 584—Modern Techniques in Teaching Geography, and 14-16 semester hours of geography course work. This must include a minimum of one course from each of the following groups:

Group 1. Earth Studies
Geo 501-502-503-504-506

Group 2. Cultural Studies
Geo 520-521-522-524-525-526-527-529-571-572

Group 3. Regional Studies
Geo 540-542-543-544-545-546-549

Group 4. Methods, Techniques, Seminars, and Thesis
Geo 505-507-508-581-582-585-587-590-591 through 594 (field studies), 600-610.

If the candidate elects to write a thesis (Geo 610) the credit produced in the M.Ed. program will be 3.

Finally, there is an elective area of 0-4 semester hours in either academic or professional-education course work.

Offerings in Geography and Planning

Symbol: Geo

500 Methods and Materials of Geographic Research (3)
Sources of geographic information and methods of compiling it into reports and geographic writing. An outline for either a thesis or a research report is prepared.

501 Advanced Geomorphology (3)
Landform structures and processes which brought them about. Interpreting landforms in relation to cultural geography with topographic maps and aerial photographs.

502 Regional Geomorphology of North America (3)
Geological analysis of surface configurations of North America, with emphasis on

geographical relationships to these features. PREREQ: introductory geology or geomorphology.

503 General Climatology (3)
Meteorological factors influencing climates of the world and their general patterns. Survey of world climates.

504 Climatology of the Continents (3)
The earth climates are examined on a continental basis, with emphasis on problem climates that deviate from the normal pattern.

505 Advanced Cartography (3)
Cartographic methods and techniques. Presentation of statistical data in map form. PREREQ: introductory cartography or consent of instructor.

506 Advanced Physical Geography (3)
Basic aspects of physical geography in the total geographic concept.

507 Advanced Map Interpretation (3)
Designed to improve map-reading skills. Emphasis on increased understanding of U.S.G.S. quadrangles and special-purpose statistical maps.

508 Research Design and Analysis (also CrJ 508) (3)
Emphasis upon social-research processes: problem identification; data collection and use; application of statistical procedures and computer techniques; hypothesis testing and problem resolution in social planning and decision-making.

520 Problems of Economic Geography (3)
Economic situations in our country and the world. Major problems of production, surplus, marketing, conflicting national policies, special problem areas. Problems in gathering, presenting, and comparing economic data.

521 Suburbanization and Land Development (3)
Component systems and functional operations of urban/suburban communities, including ecological and demographic aspects. Emphasis upon organization development, change, and problems of communities.

522 Agricultural Geography (3)
Significant factors affecting the agricultural picture of today's world. Major world crops.

524 Geography of Population (3)
Characteristics and distribution of the world's population are studied.

525 Urban and Regional Planning (3)
Application of community-planning theories and methods to designated urban and regional systems.

526 Metropolitan Systems and Problems (3)
Urbanization processes and problems; urban systems in the expanding metropolitan and regional setting; present and proposed efforts to solve urban problems.

527 Political and Global Concepts in Geography (3)
Development of world political patterns. Factors affecting present trends in global concepts.

529 Geographic Influences in World History (3)
Effect of geographic factors upon selected movements, occurrences, eras, and cultural groups in modern world history.

540 Geography of the United States (3)
A regional study of the United States, emphasizing relationships between physical

geography and man's economic and political responses to environmental circumstances.

542 Geography of Canada (3)
Physical and cultural regionalism of Canada. The natural resources; patterns of human occupance including agriculture, industry, transportation.

543 Geography of Mexico and Middle America (3)
Regional geography of Mexico, Central America, and the West Indies. Political divisions and their present-day aspects in relation to geographic conditions. Inter-American affairs considered.

544 Geography of South America (3)
Regional geography of South America: its physical base, settlement, agriculture, mining, and manufacturing. Inter-American relations included.

545 Geography of Europe (Excluding the U.S.S.R.) (3)
Regional study of Europe. Influence of environmental factors such as climate, landforms, and soils on the economic, social, and political progress of Europe's nations.

546 Geography of the Soviet Union (3)
European and Asiatic U.S.S.R. and its satellite nations. Elements of the environment and regional divisions in relation to the resource base and economic and political aims. Positive and negative factors of the U.S.S.R.

549 Geography of Africa (3)
Survey of the continent as a whole and analysis of the major problems faced by newly created African nations.

571 Conservation Workshop (3)
An appraisal of resource conservation and resource management practices in the context of regional planning.

572 Seminar in Resource Management (3)
Research problems in resource management, done on an individual-student or team-study basis.

581 Seminar in Modern Philosophy of Geography (3)
Modern geographic thought with emphasis on contributions of American geographers and their most recent views.

582 Seminar in Specialized Studies (3)
A specialized phase of geography, selected to meet a specific need of geography majors. Taught by a specialist in the selected area.

584 Modern Techniques of Teaching Geography (3)
Contemporary methods and resources for the formulation, organization, presentation, and evaluation of geography lessons.

585 Geography Field Methods (3)
An advanced field course which includes urban and land-use studies. Field methods; mapping; translation of field-study findings into geographical reports.

587 Geography Workshop for Teachers (3)
A combination of research, field work, teaching procedures, and group studies in one or several phases of geography.

590 Independent Studies in Geography (1-3)
Research projects, reports, readings in geography. PREREQ: approval of department chairman.

591-594 Area Field Studies (3 s.h. for each study)
A specific geographic region or area in either the United States or a foreign country is selected for field study in each course. The specific course number is assigned

as new areas of study are announced. The series includes:
Geo 591 — Field Study (Local)
Geo 592 — Field Study (Puerto Rico)
Geo 593 — Field Study (Europe)
Geo 594 — Field Study (Jamaica)

600 Research Report (2)
Experience in research techniques and methods of reporting findings.

610 Thesis (3 or 6)
A thesis is built around a research problem for which the student develops a theory or proposition and investigates available information on the subject.

Government and Politics

Dr. Milne, Chairman

PROFESSORS

Thomas J. Brady, J.D.
Temple University
Clifford H. Harding, Ph.D.
New York University
Charles G. Mayo, Ph.D.
University of Southern California
James S. Milne, Ph.D.
Temple University
John C. Shea, Ph.D.
University of Pittsburgh

ASSOCIATE PROFESSORS

William F. Burns, M.A.
Case Western Reserve University
A. Wayne Burton, M.A.
University of Pennsylvania
David S. Eldredge, A.M.T.
Harvard University
Lawrence V. Iacono, M.Ed.
West Chester State College

The Department of Government and Politics offers two programs. One leads to the Master of Arts in social science with a concentration in political science. The second, which is given in cooperation with the School of Education, leads to the Master of Education in political science.

The Master of Arts program is particularly relevant to teachers who wish to strengthen subject-matter knowledge in more than one academic discipline. The concentration in political science is particularly appropriate for persons employed in government, politics, or industry, as well as for those who wish to enrich their cultural background.

Students choosing the political science concentration are advised

by the Department of Government and Politics. For diagnostic purposes, a student will be asked to submit Graduate Record Examination scores.

MASTER OF ARTS IN SOCIAL SCIENCE

Concentration: Political Science

(30 Semester Hours)

A research area of 5-6 semester hours requires PSc 500—Methods and Materials of Research in Political Science and either PSc 550—Seminar in Political Science or PSc 600—Research Report.

Under advisement, the student chooses 9-12 semester hours of political science electives. Beyond the political science area the program requires 12 semester hours of social science electives selected from at least two departments in the School of Social and Behavioral Sciences other than Government and Politics. Finally, there is a cognate area (0-3 semester hours) providing election from courses in any School of the College.

MASTER OF EDUCATION IN SOCIAL SCIENCE

Concentration: Political Science

(34 Semester Hours)

Students in this program must meet a professional education requirement of 10-12 semester hours. (See page 75—School of Education.)

The political science concentration area (20-22 semester hours) requires PSc 500—Methods and Materials of Research in Political Science. The student then has the option of writing a research report (PSc 600) or developing a thesis (PSc 610). Under advisement the candidate chooses from political science offerings courses most appropriate to his needs and interests to complete the concentration area requirement.

Finally there is an elective area of 0-4 semester hours in either the academic or professional-education area.

Offerings in Government and Politics

Symbol: PSc

500 Methods and Materials of Research in Political Science (3)
Logic of scientific methodology. Research design construction. Stress on hypothesis development and testing, data collection, Measurement problems, theory application.

505 Workshop in Pre-Collegiate Political Science Education (3)
Contemporary research in political socialization as it pertains to education is examined. So are the effectiveness of citizenship-political science education and of contributions of professional and curriculum associations. Human behavior and education as factors in peaceful and violent solutions of future problems are surveyed.

510 Grass Roots Politics and the American Voter (3)
Grass-roots campaign craftsmanship. Organizing and implementing electoral politics and developing political pressure groups locally.

525 The American Presidency (3)
Analysis of the presidency, stressing its evolution into a modern institution and the contemporary behavioral aspects of the office. Considers personality, power, and campaign strategy in conjunction with presidential relations with the Executive Branch, Congress, the Courts, and the media.

531 Modern Political Theory (3)
Critical analysis of enduring political problems as seen primarily in the writings of theorists from Machiavelli to the present; basic concepts of political science; theories concerning the proper role of the state in society.

532 Seminar in International Relations (3)
Factors which motivate the actions of nations; machinery which members of the nation-state system have evolved for effecting their various policies. Methods of diplomacy, international law, international organization.

533 The American Legislative Process (3)
The legislative process in the United States; executive-legislative relationship; changing role of the legislature in America's balanced government.

534 American Political Parties (3)
Patterns, functions, and history of the American political party system at national, state, and local levels. Theoretical and empirical studies of political interest groups, public opinion, voting behavior.

541 Latin-American Culture and Politics (3)
Comparative analysis of contemporary Latin-American systems. Stress on political culture, decision-making, ideologies, political processes. Latin-American social systems are examined comprehensively; Mexico, Brazil, Argentina, and Chile comparatively.

542 Dynamics of Public Opinion and Political Behavior (3)
The political role and style of masses and elites; uses and abuses of polls, political socialization, voting behavior, campaigning, and media. Understanding individual opinion formation (micro) and mass publics (macro).

544 American Public Policy (3)
Survey of literature; examination of approaches; discussion of concepts and issues in the field of American politics and policy processes.

548 The Communist Powers (3)
Comparative study of various Communist systems, particularly the U.S.S.R. and China, Elite-mass relationships; role of Marxism-Leninism; party economic and political structure. Secondary attention to eastern Europe, Cuba, and non-ruling parties.

549 Politics of Bureaucracy and Administrative Behavior (3)
In-depth examination of the fourth branch of government. Impact of administrative apparatus (bureaucratic) on public policy formulation and implementation in the United States.

550 Seminar in Political Science (3)
Selected problems in political science. Subject announced in advance of each semester. PREREQ: PSc 500.

551 The Politics of Non-Western Areas (3)
Problems of nation-building, political participation, and elite-mass relationships in the less developed nations. Latin-American, Asian, or African nations may be stressed as a case study.

552 Civil Liberties and Civil Rights (3)
Analysis of constitutional rights and governmental attitudes with respect to civil liberties. Emphasis on case-study method and role playing.

560 The Politics of Revolution (3)
Synthesis of research, concepts, and theories of revolution. Stress on the meaning, causes, phases, and ideologies of revolution. Contemporary movements emphasized.

590 Independent Studies in Political Science (1-3)
Research projects, reports, and readings in political science. PREREQ: approval of department chairman.

600 Research Report (2)

610 Thesis (3)

School of Health and Physical Education

Edwin L. Youmans, Dean
Edwin B. Cottrell, Associate Dean
Edward N. Norris, Associate Dean of Graduate Studies

Walter E. Funk, Chariman, Department of Health Education
Melvin M. Lorback, Chairman, Department of Physical Education

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PROFESSORS

Norman A. Cochran, Ed.D.
University of Maryland
Edwin B. Cottrell, Ed.D.
Pennsylvania State University
Ralph H. Kapilian, Ph.D.
University of Illinois
Monita Lank, Ph.D.
University of Iowa
John D. Lemcke, Ed.D.
Temple University
John M. Lowe, Jr., Ed.D.
University of Toledo
Edward N. Norris, Ed.D.
Temple University
Neil A. Serpico, Ed.D.
University of Alabama
Russell L. Sturzebecker, Ed.D.
Temple University
Edwin L. Youmans, Ph.D.
University of Iowa

ASSOCIATE PROFESSORS

Alvin B. Davis, M.A.
Montclair State College
John L. DeMillion, Jr., M.Ed.
University of Pittsburgh
Phillip B. Donley, M.S.
West Virginia University; Certificate in Physical Therapy, D.T. Watson School of Physiatrics
Joseph T. Fisher, M.S.
University of Illinois
Walter E. Funk, M.Ed.
University of Delaware
Melvin M. Lorback, M.S.
Pennsylvania State University
John R. Steinmetz, M.Ed.
West Chester State College
Lloyd C. Wilkinson, M.A.
Villanova University
Richard B. Yoder, M.A.
Villanova University

The School of Health and Physical Education offers degree programs leading to the Master of Education and Master of Science in health and physical education. The Master of Education enriches academic preparation for teaching in the public schools and prepares the successful candidate for teaching at the college level. The Master of Science is designed primarily to meet the individual needs of the graduate student who wishes to pursue graduate work

beyond the master's degree and leading to the doctoral degree. The M.S. degree also prepares personnel to serve as staff in institutions of education, government, and industry.

Programs leading to both the M.Ed. and M.S. degrees in health education have been developed and are expected to be available within the 1975-1976 academic year. Consult the School for confirmation and details.

A certification program in Driver Education and Safe Living is also offered by the School.

Communicating with the School
Communications regarding the graduate program in health and physical education should be addressed to the Associate Dean for Graduate Studies, School of Health and Physical Education, West Chester State College, West Chester, Pa. 19380.

MASTER OF EDUCATION PROGRAM

Admission to the M.Ed. Program. In addition to meeting the basic requirements of the College, given under Admissions, applicants must present a baccalaureate degree attained in the field of health and physical education or equivalent preparation in a related field.

Admission to M.Ed. Degree Candidacy. Within the 15 semester hours of pre-candidacy, the applicant must complete four of the following five required courses: PEd 500, 530, 550, 561, and HEd 540. His minimum grade-point average for these courses must be 2.75.

Requirements for the M.Ed. Degree
1. Satisfactory completion of the curriculum shown below, with an overall average of 2.75 and an average of 3.00 in health and physical education.
2. Satisfactory performance on the written and/or oral comprehensive examinations.

MASTER OF SCIENCE PROGRAM

Admission to the M.S. Program. Applicants must meet the basic requirements of the College, given under Admissions, and must present a baccalaureate degree attained in the field of health and physical education or equivalent preparation in a related field. They must also achieve a combined score of 800 on the Aptitude Section of the Graduate Record Examination.

In addition, at the discretion of the graduate faculty of the School, a screening examination may be required of M.S. candidates.

Admission to M.S. Degree Candidacy. Within the 15 semester hours of the pre-candidacy period, the applicant is expected to

complete three of the following four required courses: PEd 500, 530, 550, and PEd 561. His grade-point average for these and other courses taken during pre-candidacy must be at least 3.00.

Requirements for the M.S. Degree

1. Satisfactory completion of the curriculum shown below, with an overall average of 3.00.
2. Oral defense of the thesis.
3. Satisfactory performance on the written and/or oral comprehensive examinations.

MASTER OF EDUCATION IN HEALTH AND PHYSICAL EDUCATION

(34 Semester Hours)

The M.Ed. program is composed of a required area of 20 semester hours, including a research project and an elective area of 14 hours planned under advisement. Required courses are Educational Foundations (EdF 510) and HEd 540 and PEd 500, 530, 550, and 561.

The research project consists of two seminars (PEd 591 and 592) which are taken following the successful completion of Methods and Materials of Research in Health and Physical Education (PEd 500).

MASTER OF SCIENCE IN HEALTH AND PHYSICAL EDUCATION

(30 Semester Hours)

The Master of Science is attained through successful completion of an area of concentration, a component of electives, and the thesis. Required for the concentration are PEd 500, 530, 550, and 561. Before undertaking work on the thesis (PEd 610) the candidate must complete a thesis seminar (PEd 593). The elective area is developed under advisement and must include 7-10 credits produced from the School's curriculum in either the scientific area or the social and cultural areas. The remaining 3-6 credits should be used to fortify the student's individualized program, and, with the permission of the Associate Dean for Graduate Studies, may be selected from related fields.

CERTIFICATION PROGRAM IN DRIVER EDUCATION AND SAFE LIVING

(Highway Safety and General Safety Education)

Richard B. Yoder, Coordinator

A teacher's certificate may be extended to include education for safe living (highway safety and general safety education) by completing 12 semester hours of course work in the School of Health

and Physical Education. Six of these hours must be met by History and Philosophy of Safety Education and Principles of Accident Prevention (PEd 580) and Seminar in the Four-Phase Program of Driver Education (PEd 587). The remaining two courses are chosen, under advisement by the coordinator, from PEd 581, 582, 583, 584.

Offerings in Health and Physical Education

HEALTH EDUCATION

Symbol: HEd

540 School Health Problems (3)
In-service training in school health problems, using the case technique method and a variety of materials, methods, and resources.

542 Human Sexuality in a Changing Society (3)
Problems of sexual organs such as dysfunction. Changing sexual attitudes and behavior of individuals, families, and society. Commercial sex, misinformation, sex and the law, population control. Sex education for home and school.

544 Principles of Curriculum and Instruction for Health Education (3)
Alternatives for viewing and reviewing instructional programs. Existing rationales. Conception of curricula. Developing effective curriculum.

565 Scientific Bases for Health (3)
Past and recent scientific developments in selected physiological health problems. Analysis of research findings which contribute to basic content in health education. The practical application of these findings through health behavior.

567 Sociological Bases for Health (3)
Past and recent scientific developments in selected sociological health problems. Analysis of research findings in the areas of social and mental health; the place of these findings in the basic content in health education and their practical application through group behavior.

569 Addictive Diseases (3)
Designed to assist the student and in-service teacher in developing knowledge and insight into the addictive diseases (alcohol, drugs, tobacco). Utilization of resource personnel.

PHYSICAL EDUCATION

Symbol: PEd

500 Methods and Materials of Research in Health and Physical Education (2)
Techniques of research in education applied to the field of health, physical education, and recreation.

502 Elementary Physical Education Workshop (2)
Orientation for the teaching of elementary physical education. Principles and practices; appropriate activities for various grade levels.

504 Elementary Physical Education Recreation Music Workshop (2)
Leading and teaching rhythmic activities and singing in elementary physical education and recreation. Fundamental level. Instructional programmed music textbook; piano and guitar chords, Creating and teaching recreational and singing games.

510 School and Community Recreation (3)
Community recreation with emphasis on the role of the school in the total program.

512 Outdoor Education Workshop (2)
Principles, procedures, and skills for conducting outdoor education programs. Seminars, lectures, field trips, and practical participation in outdoor education skills.

520 Scientific Principles of Coaching (3)
Recent trends in theories and techniques of teaching sports. Mechanical principles of efficient movement. Research related to competitive performance. Specialists serve as guest panelists.

521 Sports Psychology (3)
Behavior of individuals participating in play, games and sports. Why people behave the way they do in athletics and physical activity. Risk-taking personality and behavior under stress.

530 Scientific Bases for Physical Education (3)
Scientific data related to physical education activities. Scientific approaches to motor learning and development of skill. PREREQ: anatomy, physiology, applied physiology, or equivalents.

531 Adapted Physical Education (3)
Techniques for a program of adapted physical education in the public school. Application of activities to benefit the child with a temporary or permanent disability.

534 Modern Principles of Athletic Training (3)
A course for the physical educator and/or coach. Injuries which occur in class, practice, and game situations; preventive taping and wrapping; immediate first-aid procedures; professional relations with the medical profession.

535 History of Dance (3)
Historical development and formalization of various styles of dance. Relationship to the development of the society of man in Western Culture. Recreational, educational, aesthetic values of dance explored.

536 Summer Dance Workshop/Effective Projection In Theater Dance (1)
Experience in dance as a performing art: lighting, set design, costume. Original compositions are staged. The workshop combines various dance techniques.

550 Historical and Philosophical Bases for Health and Physical Education (3)
Past and contemporary philosophies, principles, and objectives in health, physical education, and recreation; current trends.

551 Seminar in Professional Literature in Health, Physical Education, and Recreation (3)
Review of current professional literature in the area and its related fields. Emphasis on the application of the literature to teaching and research.

560 Contemporary Problems in Health, Physical Education, and Recreation (3)
Problems in teaching health, physical education, and recreation; in-service aspects; factors and variables which influence solutions of these problems.

561 Techniques of Measurements and Evaluation in Health and Physical Education (3)
Statistical and evaluative procedures and their application to health, physical education, and recreation.

562 Administration and Supervisory Practices In Health, Physical Education, Recreation, and Athletics (3)
Nature of the positions of directors or supervisors of physical education, recreation, and athletics. Job specifications; operational principles and procedures.

563 Scientific Measurement and Instrumentation (2)
Experience in measurement involving operation of laboratory equipment for research in physical education.

564 Biodynamics of Human Performance (3)
Physiology of the active, vital organism. Scientific findings concerning human performance, especially under stress and accompanying physiological adjustments.

566 Mechanical Analysis of Motor Skills (3)
Fundamental principles of mechanics, applied to teaching physical education and athletic activities.

570 Curriculum in Health and Physical Education (3)
Trends in health and physical education curricula at the elementary, secondary, and college levels. Surveys, reports, and analyses of curriculum practices.

571 Comparative Physical Education (3)
Comparative study of programs outside the United States. Current philosophies, principles, and practices.

572 The Child and Physical Education (3)
Contributions of physical education to the child's physical, social, emotional, and intellectual growth and to his developmental needs and interests. The influences of various activities on growth and development.

573 The Olympic Games—Their Influences on the Ancient and Contemporary Worlds (2)
Ancient and modern games and their historical and cultural significance. Sociological and political implications of the modern games.

580 History and Philosophy of Safety Education and Principles of Accident Prevention (3)
The safety movement in the United States and other countries. Place of safety education in modern living; philosophies of safety-education leaders; accident causation and prevention; their research implications. Background for administering school, civil defense, and emergency safety programs.

581 Contemporary Practices and Program Evaluation in Safety Education (3)
Current practices, evaluation of programs, and research of current literature in safety education. Techniques for selecting, constructing, and utilizing instruments for evaluating safety-education programs. Problem-solving projects.

582 Problems in Traffic and Driver Education (3)
Contemporary curriculum and current practices in driver and traffic education, enforcement of traffic laws and regulations, engineering problems. Problem-solving projects.

583 Psychology in Safety Education and Accident Prevention (3)
Effects of unconscious determinism, habits, attitudes, individual adjustment, motivation, and personality on accident causation. Research implications explored.

584 Seminar in Motorcycle Safety Education (3)
Curricular design, administration, and operational techniques of motorcycle safety programs. Laboratory experiences.

587 Seminar in the Four-Phase Program of Driver Education (3)
In-service experience for driver-education teachers in classroom, BTW, Multi-Car Method, and Simulation.

591 Research Project Seminar I (2)
The M.Ed. candidate selects a problem for a Research Report, reviews the literature, develops procedures, and collects appropriate data. He is expected to com-

plete the first three chapters of his Research Report during Seminar I, and will continue to register for this course each semester or summer session until this requirement is met. He then registers for Seminar II.

592 Research Project Seminar II (1)
The M.Ed. candidate is expected to complete his Research Report in this seminar (see PEd 591). He continues to register for the seminar until the Report is completed.

593 Thesis Seminar (2)
A course for the M.S. candidate, who selects a topic, reviews the literature, develops procedures, and prepares a proposal acceptable to his thesis committee. The candidate continues to register for the seminar until he has met its requirements. He then registers for PEd 610.

600 Independent Study and Special Projects (1-3)
Research projects, seminar papers, reports of special conferences, and reading in health and physical education. PREREQ: approval of Associate Dean for Graduate Studies.

610 Thesis (4)
Undertaken upon completion of PEd 593. If the thesis is not completed in the first semester the student must register again and thereafter in 593 until his committee accepts his thesis.

The following undergraduate course is approved for credit toward the master's degree:

PeD 449 Learning on the Move: Activities for Pre-Elementary School Children (3)

SERVICE COURSES

The following courses are open to all curricula, with no prerequisite in health and physical education required:

PEd	PEd	PEd	HEd
502	535	583	540
504	536	584	542
510	580	587	569
512	581		
520	582		

History

Dr. Carlson, Chairman
Dr. Stuart, Coordinator for the Graduate Program in History

PROFESSORS

Robert E. Carlson, Ph.D.
University of Pittsburgh
Florence Joseph Crowley, Ph.D.
University of Florida
Byron Y. Fleck, Ph.D.
University of Iowa
Claude R. Foster, Ph.D.
University of Pennsylvania
Frank Fox, Ph.D.
University of Delaware
Clifford H. Harding, Ph.D.
New York University
Patricia C. Johnson, Ph.D.
University of Rochester
Donn C. Riley, Ph.D.
St. Louis University
Harry G. Schalck, Ph.D.
Clark University
Anne Sessa, Ph.D.
University of Delaware
Norbert C. Soldon, Ph.D.
University of Delaware
Charles H. Stuart, Ph.D.
Boston University
Jane B. Swan, Ph.D.
University of Pennsylvania
John J. Turner, Jr., Ph.D.
Columbia University
Robert J. Young, Ph.D.
University of Pennsylvania

ASSOCIATE PROFESSORS

H. James Burgwyn, Ph.D.
University of Pittsburgh
Raymond A. Doyle, B.S.
West Chester State College
Paul G. O'Grady, Ph.D.
University of Delaware
Harold E. Shaffer, Litt. M.
University of Pittsburgh
Richard J. Webster, A.M.
University of Pennsylvania

ASSISTANT PROFESSORS

Thomas J. Heston, Ph.D.
Case Western Reserve University
W. Bennett Peters, Ph.D.
University of California at Santa Barbara

The Department of History offers three degrees: the Master of Arts in history; the Master of Arts in social science with a concentration in history; and, in cooperation with the School of Education, the Master of Education in Social Science with a concentration in history.

The Master of Arts degree in history provides a sound foundation for study leading to the doctorate in history as well as a background of knowledge for teachers in secondary schools and institutions of higher learning and for persons employed in industry and government. The degree also enriches the student's cultural background and helps him to evaluate present events in light of the past.

The M.A. in history may be achieved by completing either a thesis

or non-thesis program. The candidate in the thesis program must pass a reading-proficiency test in either French or German. The candidate, with the department chairman's approval, may substitute another language or may demonstrate competency in statistics. In the non-thesis program, the candidate does not fulfill the language requirement but takes three seminars and presents a research paper in each.

The Master of Arts in social science is particularly relevant for teachers who wish to strengthen their subject-matter knowledge in more than one academic discipline. The program is also appropriate for persons employed in government or industry or for those who wish to enrich their cultural background. Those who select history as their concentration in this interdisciplinary program are advised by the Department of History.

The Master of Education in social science (history concentration) provides the in-service teacher with additional professional-education courses as well as with an opportunity to enlarge his understanding of the historical past.

In all three programs the Graduate Record Examinations (morning and afternoon) are required for admission to degree candidacy, which usually occurs upon completion of from 12 to 18 semester hours of graduate work.

MASTER OF ARTS IN HISTORY

(30 Semester Hours)

Thesis Option

Major area of concentration (American or European)—12 semester hours (must include two seminars)

Minor area of concentration (either the area not chosen above or the Third World) — 6 semester hours (must include one seminar)

His 500 (Methods and Materials of Research)—3 semester hours

His 610 (Thesis)—6 semester hours

Elective—3 semester hours

Non-Thesis Option

Major area of concentration (American or European)—18 semester hours (must include two seminars)

Minor area of concentration (either the area not chosen above or the Third World)—9 semester hours (must include one seminar)

His 500 (Methods and Materials of Research)—3 semester hours

MASTER OF ARTS IN SOCIAL SCIENCE

Concentration: History

(30 Semester Hours)

History courses—9 semester hours (under advisement)

Social Science courses—12 semester hours (from at least two departments other than History in the School of Social and Behavioral Sciences)

His 500 (Methods and Materials of Research)—3 semester hours

His 550, 551, **or** 552 (Seminar)—3 semester hours

Elective (from any department in the College)—3 semester hours

MASTER OF EDUCATION IN SOCIAL SCIENCE

Concentration: History

(34 Semester Hours)

Professional education requirement—10 to 12 semester hours
(See page 75, School of Education)

History courses (under advisement)—15 to 18 semester hours

His 500 (Methods and Materials of Research)—3 semester hours

His 550, 551, **or** 552 (Seminar)—3 semester hours

Electives (Professional education or academic)—0-4 semester hours

Offerings in History

See also Social Science (SSc) following History

Symbol: His

500 Methods and Materials of Research in History (3)
Basic techniques and procedures in research; major types of research and methods for locating, evaluating, and interpreting evidence. The student develops a tentative outline, bibliography, and summary of an investigative procedure. Required of all degree-program students.

508 Colonial America: 1607-1763 (3)
Development of the 13 mainland colonies of Anglo-America from their settlement to mid-18th century. Emphasis on a conceptual analysis of specific events and problems.

509 Revolutionary America: 1763-1789 (3)
American development from the mid-18th century to the framing of the Constitution, with emphasis on the causes of the American Revolution and the evolution of American institutions and ideas throughout the period.

511 The Rise of the New Nation: 1789-1850 (3)
A historiographical approach involving interpretations of the foundations and development of the Federalist Party, emergence of Jeffersonian Democracy, evolution of Jacksonian Democracy, and events of the Middle Period leading to the decade of controversy.

512 Civil War and Reconstruction: 1850-1877 (3)
The War and its aftermath as the great watershed of United States national history. Emphasis on the conflicting interpretations of the causes, nature, and effects of the Civil War.

513 Emergence of Modern America: 1876-1923 (3)
Rise of industry, labor, immigration, and new cultural patterns; emergence of new political alignments, rise of imperialism, development of liberalism and reform; America's struggle for neutrality and her participation in World War I.

514 America Since 1919 (3)
The impact of urbanization and industrialization upon society, politics, and economics; the problems of wars—declared and undeclared—and the various policies for peace.

515 Problems in American Constitutional Development (3)
Selected problems in the development of American constitutional government. The progressive adaptation of the law to a changing social and economic order. Conflicts such as nationalism versus states' rights and vested rights versus police power.

516 Recent American Diplomatic History (3)
American foreign policy in Europe, Asia, Latin America, and the Middle East from 1945 to the present. Objectives sought by the United States and the political, military, economic, and social policies pursued; role of the United States in the future of underdeveloped countries.

517 American Urban History (3)
Research methods and approaches for studying the history of cities in America. Emphasis on quantitative analysis, including studies of urban population, social mobility, and voting patterns.

518 American Labor Since 1865 (3)
American laborers and labor organizations in the past hundred years; industrialization, immigration, and labor; women, children, and minorities in labor organizations; political parties, radical groups, and violence as factors in labor history; economic conditions and labor; Big Labor.

519 The Indian in America's Past (3)
The dispossession of the American Indian; land seizures, wars, and treaties; cultural contact; customs, mores, economic and religious life of the Indian; assimilation and preservation of Indian culture.

521 The Cultural and Intellectual History of Latin America (3)
Pre-Columbian art and thought, scholasticism, mercantilism, the Great Debate, Baroque architecture, Enlightenment, conservatism, liberalism, Romanticism, Modernism, Positivism, Jose Enrique Rodo, Aprismo, Mexican muralists, novel of social protest, existentialism, and music. Lineaments of the Latin-American mind.

524 Studies in the History and Culture of South Asia (3)
The Indian sub-continent's dominant political, cultural, and economic institutions. Features which contribute to an understanding of modern India and Pakistan.

525 Studies in the History and Culture of East Asia (3)
The traditional basis for modern Chinese, Japanese, and Korean society. The interaction between European and Asian cultures and resulting changes in East Asia.

527 Studies in the History and Culture of Emerging Africa (3)
Emergence of modern African nationalism against the background of traditional African society and the legacy of European colonialism.

529 Contemporary History of the Middle East (3)
Recent history of major Middle Eastern societies; Iran and the oil situation; Israel and the Palestine question; conflicting cultures.

530 Problems in Medieval Civilization (3)
Rise and fall of the Byzantine Empire, conquests of the Arabs and Turks, the crusades for the recovery of the Holy Land; the religious orders and the universal aspirations of the Papacy.

531 The Renaissance (3)
Political, social, and cultural transitions in Italy and Northern Europe, 1350-1550.

532 The Reformation (3)
Major and minor Protestant leaders and their movements; effects on the evolving nation-states; the Church of Rome's response; Wars of Religion and Treaty of Westphalia; the Scientific Revolution.

533 Dynastic Europe: 1648-1789 (3)
The absolute dynastic monarchy as best exemplified by France, Prussia, and Russia; the middle class challenge as typified by the English experience; the Enlightenment and the New Science; capitalism; colonialism, and wars of empire.

534 The French Revolution and the Napoleonic Era: 1789-1815 (3)
Causes of the French Revolution, failure of Absolutism, Reign of Terror, the Directory; rise of Napoleon Bonaparte and his contribution to the Revolution; the Empire —its rise and collapse; Congress of Vienna.

535 Nationalism and Democracy: 1815-1914 (3)
Aftermath and effect of the French Revolutionary era; events brought on by the growth of nationalism and democracy; development of the industrial revolution. Roots of the First World War.

536 Europe Since 1914 (3)
Twentieth century Europe, with emphasis on causes of World War I; Europe between World War I and World War II; problems of contemporary Europe.

540 The Evolution of Modern Russia (3)
A cultural approach to the historical development of Russia from the foundation of Kiev to the Revolution of 1917. Emphasis is on Russia's political and aesthetic uniqueness.

541 Tudor and Stuart England (3)
Social, cultural, religious, political, and economic developments during the Tudor and Stuart reigns; building a strong Tudor monarchy; the English Reformation; Stuart Absolutism; Puritan Revolution, Civil War and the Commonwealth; the beginning of Empire; the Restoration, Glorious Revolution, and Growth of English constitutionalism.

550 Seminar in American History (3)
Selected problems in American History. Subject announced in advance of each semester. PREREQ: His 500, two courses in American History.

551 Seminar in European History (3)
Selected problems in European History. Subject announced in advance of each semester. PREREQ: His 500, two courses in European History.

552 Seminar in History of the Non-Western World (3)
Selected problems in Non-Western World History. Subject announced in advance of each semester. PREREQ: 500, two courses in non-western World History.

560 Field Studies in History (3-6)
A fully supervised learning experience, usually a tour, designed to expose students to the culture, artifacts, and research facilities of a given country or area.

590 Independent Studies in History (1-3)
Research projects, reports, and readings in history. PREREQ: approval of department chairman.

610 Thesis (6)

SOCIAL SCIENCE

SSc 502 Methods and Materials for Teaching Social Studies (3)
Current practices and procedures; organization and planning; the use of classroom, library, and curriculum materials; testing, measurement, and evaluation; bibliographical sources for both teachers and students.

SSc 580 Ethnic Cultures Institute (3)
Jointly sponsored by the Schools of Arts and Letters and Social and Behavioral Sciences, the Institute considers the contributions of ethnic groups to the culture of the United States. Designed primarily for teachers, community action personnel, and students who wish to increase knowledge and skills for developing meaningful intergroup relationships and improving classroom instruction. Educators and community leaders take part.

Linguistics

(Interdepartmental Area)

Coordinators: Dr. Falgie and Dr. Smith

LINGUISTICS GROUP

Diane O. Casagrande (Speech and Theatre)	John T. Kelly (English)	Willie E. Page, Jr. (English)
W. Stephen Croddy (Philosophy)	Benjamin Nunez (Foreign Languages)	Philip D. Smith, Jr. (Foreign Languages)
Joseph Falgie, Jr. (English)		

Although West Chester presently offers no degree in linguistics, students interested in building up a concentration in this area may elect courses from the following list. For additional information consult one of the coordinators.

Offerings in Linguistics

Lin 501 Introduction to Linguistics (3)
Basic concepts of language description, classification, change, reconstruction, dialectology, and sociolinguistics.

Lin 502 Descriptive Linguistics (3)
Analysis of the phonemic, morphological, and syntactic features of typologically divergent languages. Procedures for eliciting linguistically relevant data about a language from a native speaker. PREREQ: permission of instructor.

Lin 503 Phonetics and Phonology (3)
Articulatory and acoustic descriptions of speech sounds and correlates. Phonemics, phonotactics, phonological systems, and problems in phonology. PREREQ: Lin 501 or permission of instructor.

Lin 504 Morphology and Syntax (3)
Identification of minimal meaningful linguistic units, the morphological composition of words and their syntactic arrangements in sentences. PREREQ: Lin 501 or permission of instructor.

Lin 505 Transformational Grammar (3)
Basic concepts of transformational theory and their application in teaching. PREREQ: Lin 501 or permission of instructor.

Lin 506 Meaning in Language (also Phi 506) (3)
See Phi 506.

Lin 509 Contrastive Analysis (3)
Contrastive analysis of phonological, grammatical, lexical, and cultural features of languages. Interferences in second-language learning situation. PREREQ: Lin 501 or permission of instructor.

Lin 515 General Semantics (also Sph 515) (3)
See Sph 515.

Lin 523 Philosophy of Language (also Phi 523) (3)
See Phi 523.

Lin 580 Language and Culture (3)
Language as an aspect of culture; linguistic-perceptual-cognitive categories; social and psychological aspects of language. PREREQ: Lin 501 or permission of instructor.

Lin 590 Independent Study (1-3)

Offerings in Marine Science

As a charter member of the Marine Science Consortium, West Chester, along with 17 other colleges and universities, provides opportunities for field studies in marine sciences at Lewes, Delaware, and Wallops Island, Virginia. Undergraduate and graduate courses are given each summer in five three-week sessions. The Consortium offers courses in navigation, scuba diving, geology, biology, chemistry, and physics as well as cruises on two ocean-going vessels. Consult the School of Sciences and Mathematics about the applicability of these courses to degree programs within the School.

Symbol: MSC

500 Problems in Marine Science (3)
The student chooses Option A or Option B. Option A: enrollment in an approved 400-level course in marine science and completion of an approved research project. Option B: an independent research project.

520 Marine Microbiology (3)
Sample collection and laboratory techniques in identification of marine microorganisms; physical nature of marine waters; their effect on microbial populations. PREREQ: general microbiology.

530 Coastal Sedimentation (3)
Depositional environments. Their processes, sediments, facies. PREREQ: introductory course in sedimentation or marine geology, or consent of instructor.

540 Environmental Science Education (3)
Field environmental education. Emphasis on coastal zones. Sources, facilities, methods, concepts.

570 Research Cruise (3)
Approximately one of the three weeks is spent on board the R.V. "Annandale," researching aspects of marine science including biology, geology, marine pollution, waste disposal.

598 Topics in Marine Science (1-3)
One-week survey of remote sensing techniques for study of the coastal environment. Seminars by NASA personnel in the ERTS program. PREREQ: one year of physics.

Mathematical Sciences

Dr. Branton, Chairman
Dr. Mandelbaum, Graduate Coordinator

PROFESSORS

Richard G. Branton, Ph.D.
University of Pennsylvania
Albert E. Filano, Ph.D.
Pennsylvania State University
Sebastian S. Koh, Ph.D.
University of California
James E. L'heureux, Ph.D.
Louisiana State University
Eli M. Mandelbaum, Ph.D.
University of Pennsylvania
Michael Montemuro, Ed.D.
Temple University

ASSOCIATE PROFESSORS

Thomas Egan, Ed.D.
University of Pennsylvania
Wesley E. Fasnacht, M.S.
State University of New York at Buffalo
John J. Kerrigan, M.A.
Villanova University
Frank E. Milliman, A.M.
Columbia University
Joseph G. Moser, M.S.
Purdue University
John W. Weaver, Ph.D.
Johns Hopkins University
Sol Weiss, M.A.
Columbia University

ASSISTANT PROFESSORS

James D. Fabrey, Ph.D.
Massachusetts Institute of Technology
Ronnie L. Morgan, Ph.D.
University of Missouri

The Department of Mathematical Sciences offers the Master of Arts degree with options in pure mathematics, mathematics education,and applied computer science.

The first option is for students interested in furthering their mathematical background and provides the foundation for continued work in mathematics leading to the Ph.D. degree in pure mathematics.

The second option is primarily directed to teachers of mathematics who wish to strengthen their background in mathematics and mathematics education; in addition it provides the foundation for the Doctor of Arts or the Ph.D. degree in mathematics education.

The last option is primarily for secondary mathematics or science teachers, preparing them for computer technology and its applications. Students with backgrounds other than teaching may tailor their programs to satisfy their particular needs and professional goals.

The department also cooperates with the School of Education in offering the Master of Education degree in mathematics.

Admission to the M.A. Program

In addition to meeting the basic admission requirements of the College, applicants—prior to enrollment—must schedule an interview with the department chairman. Applicants must present a minimum of 30 semester hours of mathematics including a full treatment of calculus and at least one advanced undergraduate course in modern algebra and one in advanced calculus. Deficiencies in these areas may be removed by successfully completing Mat 512—Modern Algebra and/or Mat 541—Advanced Calculus. At the discretion of the department, Graduate Record Examinations may be required.

Admission to the M.Ed. Program

In addition to meeting the basic admission requirements of the College, applicants—prior to enrollment—must schedule an interview with the department chairman. Applicants must present a minimum of 24 semester hours of mathematics including a full treatment of calculus and at least one advanced undergraduate course in modern algebra or advanced calculus. Deficiencies in these areas may be removed by successfully completing Mat 512—Modern Algebra or Mat 541—Advanced Calculus.

Requirements for The M.A. and M.Ed. Degrees

In addition to completing the course requirements shown below, candidates for either degree must perform successfully on a comprehensive oral examination.

MASTER OF ARTS IN MATHEMATICS

(30 Semester Hours)

Core Courses: Candidates in all options are required to take 9 semester hours including Mat 515, 545, and either Mat 575 or an

approved course in statistics or applied mathematics.

Required Courses (12 semester hours)
A. Pure Mathematics Option: Mat 516, 535, 546, 575 (or 576 if 575 is selected for Core).
B. Mathematics Education Option: MtE 504, 507, 508, and one of the following: MtE 505, 551, or 552.
C. Applied Computer Science Option: as specified by student's graduate committee chairman depending on student's background and experience.

Electives (9 semester hours): Chosen under advisement from the course offerings below bearing the prefix Mat or Sta except Mat 503, 512, and 541.

Modifications in this program may be made with the approval of the department chairman.

MASTER OF EDUCATION IN MATHEMATICS

(34 Semester Hours)

The candidate must satisfy the requirements as outlined on page 75, School of Education.

In the area of concentration (20-22 semester hours) Mat 515, 545, MtE 507, and either MtE 508 or 509 are required. Electives (8-10 semester hours) are chosen under advisement from the course offerings below bearing the prefix Mat or Sta.

Modifications in the area of concentration may be made with the approval of the department chairman.

Offerings in Mathematical Sciences

COMPUTER SCIENCE

Symbol: CSc

501 Introduction to Computers (3)
Prepares the student to program and use the computer for his various needs. Several computers and programming languages are considered. Primarily for non-mathematics majors.

503 Systems Design I (3)
Case studies used to acquaint students with the phases of design and implementation of an information system. Students are assigned in teams to projects involving analysis, design, programming, and implementation. Students work with users to define systems requirements and to prepare implementation plans and procedures. PREREQ: CSc 501 (or 505 or equivalent).

504 Systems Design II (3)
Continuation of CSc 503. PREREQ: CSc 503.

505 Introduction to Computer Science (3)
Introduction of the basic concepts of programming and digital computer usage. Emphasis is on the manipulation of data. The student solves many types of computing problems. PREREQ: two years of high school algebra.

506 Computer Organization and Programming (3)
Introduction to basic computer organization. Emphasis on hardware. In-depth study of a simple computer system and implementation of an assembler language interpreter of it. PREREQ: CSc 505 (or consent of instructor and equivalent of CSc 501).

507 Algorithmic Languages I (3)
Analysis and comparison of the structure of various higher level languages along with their operating systems and file processing mechanisms. Both general-purpose languages such as BASIC, FORTRAN, COBOL, ALGOL, PL/I, and APL and special-purpose languages such as RPG, GPSS, SNOBOL, LISP, and COURSEWRITER are studied. PREREQ: CSc 506 (or equivalent).

508 Algorithmic Languages II (3)
Continuation of CSc 507. PREREQ: CSc 507.

510 Computer Programming and Numerical Methods (3)
Algorithmic methods. The computer is used to solve a variety of numerical and non-numerical problems. PREREQ: CSc 501 (or equivalent) and one year of calculus.

511 Firmware (3)
Study of the hardware characteristics of generai purpose digital computers and related equipment with particular emphasis on microprogramming. PREREQ: CSc 508 (or equivalent).

521 Data Base Management Systems (3)
Detailed study of the characteristics of generalized data management systems, including a survey of some of the systems in widespread use. Emphasis is placed on techniques for improving the interface between a manager and the information he needs to make decisions through easy-to-use generalized reporting systems. PREREQ: Csc 508 (or equivalent).

531 Operating Systems (3)
Operating systems and their user characteristics are studied. Maintenance of a complex operating system with emphasis on the important trade-offs made in tuning the system. Details of core and file management, system accounting, and other user-related services. PREREQ: CSc 508 (or equivalent).

535 One-Line Computing (3)
Design, implementation, and modification of information systems in an on-line environment. File management systems and data structures appropriate to real-time computing with particular emphasis on back-up and recovery techniques. PREREQ: CSc 508 (or equivalent).

536 Data Communications (3)
Study of the hardware and software characteristics of equipment used to provide communication between computers and remote terminals. PREREQ: CSc 508 (or equivalent).

541 Compiler Construction (3)
Translation, loading, and execution of a higher-level language. Syntax analysis of simple expressions and statements. Organization of a compiler, including compile-time and run-time symbol tables, error diagnostics, and object code optimization. Design and implementation of a simple compiler. PREREQ: CSc 508 (or equivalent).

550 Computers in Education (3)
The use of the computer as an aid to the educator. The student will receive "hands-on" instruction in the use of CMI, CAI, simulations and educational administrative systems including scheduling, financial accounting, guidance, testing, and libraries.

561 Simulation (3)
Computer simulation utilizing logical, numerical, and Monte Carlo modeling to represent systems. Use of special languages to simulate actual systems. PREREQ: CSc 501 (or equivalent) and calculus.

571 Computer Graphics (3)
Construction and manipulation of prototypes for graphical display purposes. PREREQ: CSc 501 (or equivalent) and calculus.

590 Independent Project (1-5)
The student designs and implements a realistic, fairly complex software system. Project problems are drawn from local industry and College departments. Each project is supervised by a computer science faculty member. PREREQ: consent of instructor.

595 Topics in Computer Science (3)
Topics announced at time of offering. PREREQ: consent of instructor.

599 Independent Study (1-4)
Student, in conjunction with professor, selects topics to be studied in depth via literature search and reading of pertinent articles. PREREQ: consent of instructor.

MATHEMATICS

Symbol: Mat

503 History of Mathematics (3)
Development of mathematics from prehistoric time to present. Emphasis on changes in the mainstreams of mathematical thought through the ages.

506 Fundamentals of Mathematics for Physics (3)
A critical examination of mathematics from the viewpoint of its physical applications.

512 Modern Algebra (3)
For students with background deficiencies in algebra. Abstract mathematical systems studied include groups, rings, and fields.

513 Linear Algebra (3)
Vectors, vector spaces, determinants, linear transformations, matrices, bilinear and quadratic forms. PREREQ: Mat 512 (or equivalent).

514 Theory of Numbers (3)
Elementary number theory and selected topics in analytic number theory.

515 Algebra I (3)
Elements of abstract algebra. Groups, commutative ring theory, modules, and associative algebras over commutative rings. PREREQ: Mat 512 (or equivalent).

516 Algebra II (3)
A continuation of Mat 515. Vector spaces, representation theory, and Galois theory. PREREQ: Mat 515.

517 Topics in Algebra (3)
Advanced algebraic theories. Homological algebra, algebraic geometry, and algebraic number theory. PREREQ: Mat 516.

532 Modern Geometry (3)
Foundations of geometry. Axiomatics and the structure of a geometric system. Euclidean geometry from the standpoint of the Euclid and Hilbert postulates. Certain topics in projective and hyperbolic geometry.

533 Projective Geometry (3)
An algebraic approach to projective geometry. Invariant theory, projective spaces, conics and quadratic forms, subgeometries of real projective geometry.

534 Differential Geometry (3)
Modern differential geometry. Calculus on Euclidean space, frame fields, calculus on manifolds, shape operators, Riemannian geometry.

535 Topology (3)
Filters, nets, separation axioms, compactness, connectedness, uniform spaces.

536 Algebraic Topology (3)
Algebraic topological invariants. Homotopy theory; simplicial, singular and Cech homology; cohomology theories. PREREQ: Mat 516, Mat 535.

537 Topics in Topology (3)
Special topics in topology. Dimension theory, topological groups, Lie groups, and differential topology.

541 Advanced Calculus (3)
For students with background deficiencies in analysis. Ordinary and uniform limits; sequences of functions; the Riemann integral.

543 Topics in Differential Equations (3)
Advanced topics. Existence and uniqueness theorems, stability theory, singular points, regular singular points, Sturm separation theorem, and the "method of Liapunov."

545 Real Analysis I (3)
A rigorous study of real valued functions of real variables. PREREQ: Mat 541 (or equivalent).

546 Real Analysis II (3)
Continuation of Mat 545. PREREQ: Mat 545.

547 Topics in Analysis (3)
Advanced topics selected on the basis of professor and student interests. PREREQ: Mat 546.

570 Mathematical Models in the Life, Physical, and Social Sciences (3)
Techniques and rationales of model building. Applications to the life, physical, and social sciences.

571 Computer Simulation and Test of Hypothesis (3)
Elements of probability and test of hypothesis. Computer simulation of problems from the life, physical, and social sciences.

572 Proseminar (3)
Seminar in generating and solving problems in mathematics.

575 Complex Analysis I (3)
A rigorous study of complex valued functions of complex variables.

576 Complex Analysis II (3)
Continuation of Mat 575. PREREQ: Mat 575.

581 Methods of Applied Mathematics (3)
Vector analysis, complex analysis. Fourier analysis, and Sturm-Liouville Theory.

583 Operations Research and Applied Mathematics (3)
Topics in applied mathematics. Linear and dynamic programming, game theory, extreme value problems, inventory, allocation, and queuing and search problems.

590 Seminar in Mathematics (3)
Topics selected from student and professor interests. PREREQ: consent of instructor.

599 Independent Study (1-3)

610 Thesis (3-6)

MATHEMATICS EDUCATION

Symbol: MtE

501 Fundamental Concepts of Mathematics I (3)
Selected topics which reflect the spirit of the modern mathematics currently taught in the elementary school. PREREQ: a one-semester undergraduate course in modern mathematics.

502 Fundamental Concepts of Mathematics II (3)
Topics selected by mutual decision of students and professor on the basis of the experience in MtE 501. PREREQ: MtE 501.

504 Research in Mathematics Education (3)
Techniques of research in mathematics education. Analysis of types of research; selection of a problem; formulation of a plan of investigation and report, including statistical analysis.

505 Research Techniques in Mathematics Education (3)
Statistical principles in experimental design. General linear model correlation, regression, statistical inference, analysis of variance, factorial designs. Critiques of current literature.

507 Current Trends in Teaching Mathematics (3)
Philosophy, techniques, subject matter, and effectiveness of current secondary school mathematics courses examined against the changing character of American society and technology.

508 Topics in Mathematics Education (3)
Topics announced in advance. Typical topics include: teaching mathematics to the slow learner, methods of research in mathematics education, mathematics laboratories, and individualized instruction.

509 Seminar in Mathematics Education (3)
Topics depend upon student interest. Student presentations required; informal discussion encouraged. Guests, including secondary school principals and mathematics curriculum coordinators, frequently participate.

510 Algebra for the Elementary Teacher (3)
An introduction to modern algebra. Topics include a comparative study of mathematical systems. PREREQ: MtE 501 (or equivalent).

530 Geometry for the Elementary Teacher (3)
Basic concepts in geometry. Euclidean geometry and postulative systems. PREREQ: MtE 501 (or equivalent).

550 Topics in Mathematics for Elementary School Teachers (3)
In-depth coverage of topics in mathematics introduced in grades K-8. Topics include: number theory, probability, statistics, inequalities, introduction to the computer. Emphasis among these and inclusion of additional topics depend upon student preparation and need. PREREQ: MtE 501 (or equivalent).

551 Mathematics for the Disadvantaged (3)
Examination of current programs in mathematics for the disadvantaged; discussion of the pertinent research literature; development of materials and techniques for teaching the disadvantaged.

552 Materials for Teaching Secondary School Mathematics (3)
Examination of available commercial materials for the teaching of mathematics; creation of new and original materials for specific mathematical concepts and specific needs of class members.

553 Teaching Elementary School Mathematics 3)
In-depth treatment of strategies, methods, and materials for teaching the following concepts in an elementary classroom: place value; addition, subtraction, multiplication, and division of whole numbers; measurement; elementary number theory; geometry; fractions; integers. PREREQ: MtE 501 (or equivalent).

554 Current Trends in Teaching Elementary School Mathematics (3)
History and development of the modern elementary school mathematics programs. Theories and findings of recent and contemporary learning theorists are investigated. Modern organizational strategies surveyed include team teaching, individualized instruction, open space, etc. Contemporary instructional strategies such as individualized learning systems, mathematics laboratories, individually prescribed instruction, etc., are studied. PREREQ: MtE 501 (or equivalent).

555 Modern Techniques of Teaching Elementary School Mathematics (3)
Methods of presenting the new mathematics curricula in the elementary grades. Surveys modern techniques such as Individualized Learning Systems, mathematics laboratories, auto-instruction, etc. PREREQ: MtE 501 (or equivalent).

556 Development of Mathematics Curricula in the Elementary Grades (3)
For the development of a specialty in modern elementary school mathematics education. Curriculum development techniques; selection and analysis of materials; individualization of instruction programs, techniques, and media. PREREQ: MtE 501 (or equivalent).

558 Teaching Mathematics in the Junior High School (3)
Methods and materials for teaching the concepts of middle school and junior high school mathematics. Objectives are developed, and serve as the basis for all course work. Current textbooks, achievement tests, and audio-visual materials are reviewed.

559 Mathematical Logic and Probability Concepts for Secondary School Teachers (3)
Essentials of a mathematical system, inductive and deductive reasoning, the laws of logic and the testing of valid arguments; the counting principle, permutations, combinations, elements of discrete probability. Stress on use and application of these concepts in the secondary school.

560 Teaching Algebra in the Secondary School (3)
Methods and materials for teaching the concepts of first and second year algebra. Emphasis on relevant applications to real-life situations. Objectives as well as criterion-referenced test items are developed for pre-algebra as well as for the two algebra courses. Current textbooks, achievement tests, and audio-visual materials on algebraic topics are reviewed.

561 Calculus for Teachers I (3)
Analytic geometry of both the straight line and conics, and elements of calculus of real valued functions of a single real variable are reviewed. Topics include: limits, continuity, the derivative and its applications, curve sketching, and polar coordinates. Emphasis on methods of teaching these concepts to secondary school students.

562 The Laboratory Approach to Teaching Elementary School Mathematics (3)
The materials-oriented approach to teaching elementary school mathematics, including cuisenaire rods, the geoboard, attribute games, tangrams, multibase blocks. Emphasis on learner's participation in activities directly related to mathematics of the elementary school. Use of materials extends to all grade and ability levels.

563 Use of the Mathematics Laboratory in the Secondary School (3)
Laboratory investigations and the curriculum; planning laboratory investigations; facilities for the laboratory approach; assessing the effectiveness of this approach with the low, average, and high achiever in the secondary school.

564 Individualizing Instruction in Secondary School Mathematics (3)
Analysis of current programs for individualizing instruction in secondary school mathematics (IDEA, PLAN, Nova, Research for Better Schools, and Coatesville Project); analysis and development of an individualized instruction unit with performance objectives, criterion-referenced test items, media orientation, and appropriate tools for evaluation.

567 Teaching Geometry in the Secondary School (3)
Methods and materials for teaching the concepts of geometry in the secondary school. Emphasis on the development of relevant applications of the concepts of geometry in real-life situations.

568 Seminar for Secondary School Mathematics Teachers (3)
Selected topics of current interest in secondary school mathematics for the in-service teacher.

569 Seminar for Elementary School Mathematics Teachers (3)
Selected topics of current interest in elementary school mathematics for the in-service teacher.

599 Independent Study (1-3)

610 Thesis (3-6)

STATISTICS

Symbol: Sta

521 Statistics I (3)
For non-mathematics majors. Emphasis on applications to education, psychology, and the sciences. Distributions, measures of central tendency and variability, correlation, regression and hypothesis testing, other topics.

522 Statistics II (3)
Continuation of Sta 521. Applications of distributions, analysis of variance and covariance, multivariate analysis. PREREQ: Sta 521.

523 Mathematical Statistics I (3)
A rigorous treatment of probability spaces and an introduction to the estimation of parameters.

524 Mathematical Statistics II (3)
Continuation of Sta 523. Correlation, sampling, tests of significance, analysis of variance, other topics. PREREQ: Sta 523.

525 Probability (3)
An advanced approach to the elements of probability. Discrete and continuous random variables, probability distributions, sampling distributions.

526 Design and Analysis of Experiments (3)
Basic principles of design and analysis of experiments. Randomization, blocking, analysis of multi-level and factorial classifications, multiple comparisons, confounding, fractional replication. PREREQ: a course including statistical inference.

599 Independent Study (1-3)

SERVICE COURSES IN MATHEMATICAL SCIENCES

COMPUTER SCIENCE (CSc)
501 Introduction to Computers
550 Computers in Education

MATHEMATICS (Mat)
501 Fundamental Concepts of Mathematics I
502 Fundamental Concepts of Mathematics II
510 Algebra for the Elementary Teacher
530 Geometry for the Elementary Teacher
550 Topics in Mathematics for Elementary School Teachers
553 Teaching Elementary School Mathematics
554 Current Trends in Teaching Elementary School Mathematics
555 Modern Techniques of Teaching Elementary School Mathematics
556 Development of Mathematics Curricula in the Elementary Grades
558 Teaching Mathematics in the Junior High School
559 Mathematical Logic and Probability Concepts for Secondary School Teachers
560 Teaching Algebra in the Secondary School
561 Calculus for Teachers I
562 The Laboratory Approach to Teaching Elementary School Mathematics
563 Use of the Mathematics Laboratory in the Secondary School
564 Individualizing Instruction in Secondary School Mathematics
567 Teaching Geometry in the Secondary School
586 Seminar for Secondary School Mathematics Teachers
569 Seminar for Elementary School Mathematics Teachers

STATISTICS (Sta)
521-2 Statistics I-II

School of Music

Charles A. Sprenkle, Dean
Alexander Antonowich, Associate Dean
Ira C. Singleton, Associate Dean for Graduate Studies and Research

Department of Music Education

Dr. Carey, Chairman

Professors

Alexander Antonowich, Ed.D.
Columbia University
Margaretta A. Carey, Ed.D.
Pennsylvania State University
Richard C. Merrell, Ed.D.
Pennsylvania State University
Ira C. Singleton, Ph.D.
New York University
C. Wayne Stringer, Ed.D.
Columbia University; Diploma in Kodaly, Danube Bend University

Associate Professors

Carol Belmain, M.S.
Ithaca College

Assistant Professors

John C. Collins, M.A.
Montclair State College
Sara M. Northeimer, Ed.M.
Temple University

Department of Music History and Literature

Dr. Schmidt, Chairman

Professors

Constantine Johns, Ed.D.
Columbia University
Frederick C. Pfleiger, Ph.D.
West Virginia University
Liselotte M. Schmidt, Ed.D.
Columbia University
James R. Wells, Ed.D.
Columbia University

Associate Professor

Sterling Murray, Ph.D.
University of Michigan

Department of Music Theory and Composition

Dr. Wright, Chairman

Professors

Shirley A. Munger, D.M.A.
University of Southern California; Diploma in piano, Conservatoire Nationale de Musique (Paris)
Harry Wilkinson, Ph.D.
Eastman School of Music
James J. Wright, Ph.D.
Eastman School of Music

Associate Professors

Charles D. Gangemi, M.A.
University of Pennsylvania
Sister M. Teresine Haban, Ph.D.
Eastman School of Music
Larry A. Nelson, Ph.D.
Michigan State University

Assistant Professor

James D. Sullivan, M.A.
Eastman School of Music

Department of Instrumental Music

Mr. Southall, Chairman

Professors

Edward A. Barrow, Ph.D.
West Virginia University
Irving Hersch Cohen, Ph.D.
New York University

Associate Professors

Richard A. Boerlin, M.S.
University of Illinois
James E. Smith, M.Mus.
Eastman School of Music

(Continued on next page)

Assistant Professors
Terry E. Guidetti, M.Mus.
Northwestern University
Eugene Klein, M.M.E.
Indiana University
Kenneth L. Laudermilch, M.Mus.
New England Conservatory of Music
Harrison C. Roper, M.Mus.
Catholic University of America
H. Lee Southall, M.A.
Trenton State College

Instructors
Tyrone Breuninger, M.M.
Temple University
Joseph A. Goebel, Jr., B.S.
Millersville State College
Emily T. Swartley, M.Mus.
Temple University

Department of Keyboard Music

Dr. Veleta, Chairman

Professors
Robert E. Pennington, Mus.D.
Northwestern University
Robert Schick, A.Mus.D.
Eastman School of Music
Charles A. Sprenkle, D.Mus.A.
Peabody Conservatory of Music
Richard K. Veleta, D.Mus.
Northwestern University

Associate Professors
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The Juilliard School
Helen Hales, M.Mus.
Peabody Conservatory of Music
Donna F. McHugh, M.Mus.
Catholic University of America
Praxiteles Pandel, M.S.
The Juilliard School
Shirley T. Pethes, M.Mus.
Indiana University
Jacques C. Voois, M.Mus.
Manhattan School of Music
Naomi L. Weiss, M.S.
The Juilliard School
W. Benjamin Whitten, M.Mus.
Peabody Conservatory of Music

Department of Vocal and Choral Music

Mr. Sweet, Chairman

Associate Professors
Lois W. Alt, M.Mus.
University of Michigan
W. Larry Dorminy, M.Mus.
Florida State University
Mary Lou Frenz, M.Mus.
Westminster Choir College
H. Raymond Friday, M.Mus.
Diploma, Academy of Vocal Arts
Emil M. Markow, M.A.
Columbia University
Jane E. Sheppard, M.Mus.
Indiana University
Roy D. Sweet, M.Mus.
Eastman School of Music
Joy Vandever, M.Ed.
West Chester State College
G. Alan Wagner, M.F.A.
Carnegie-Mellon University
Lois M. Williams, M.A.
Columbia University; Fulbright Scholar (Germany 1953-1955)

Assistant Professor
Stella F. Conaway, M.Mus.
The Philadelphia Academy of Music

The School of Music offers programs leading to the Master of Music degree with concentrations in music education, performance, music theory, or composition; and the Master of Arts degree

in history and literature of music. Course selections to meet degree requirements are made by each candidate in consultation with his adviser and with due consideration of the candidate's goals, abilities, needs, and interests.

Admission to Degree Programs in Music

In addition to meeting basic College requirements, stated in Admissions, applicants for degree programs are considered on the basis of academic record, interviews, preliminary tests, and auditions. Prior to enrollment:

All applicants must (1) possess appropriate undergraduate degrees and may be required to remedy not more than 12 credits of undergraduate deficiency if the undergraduate degree is not in the area of the intended graduate degree; (2) schedule interviews with the Associate Dean for Graduate Studies and Research of the School of Music.

Music Education applicants: arrange through the chairman of the Department of Music Education for the required diagnostic examination covering music education, music history, and music theory, the examination to be taken prior to the completion of 6 graduate credits.

Performance applicants: (1) schedule an interview with the chairman of the appropriate applied music department; (2) submit a repertoire list; (3) demonstrate performance ability at an advanced level by performing for an audition committee.

Theory and/or Composition applicants: (1) schedule an interview with the chairman of the Department of Music Theory and Composition; (2) demonstrate sufficient pianistic ability to meet the demands of the program. Composition applicants must, in addition, submit original works showing technical facility in composition.

Music History and Literature applicants: (1) submit Graduate Record Examination scores for the morning and afternoon tests in music history; (2) arrange through the chairman of the Department of Music History and Literature for the required tests on reading skill in a foreign language and in basic principles of music history and style-critical analysis, to be followed by an interview with the department chairman and examination committee.

Explanation of Numbering System

Course numbers indicate areas of study in music as follows:

500-510	Core Requirements	600-649	Literature and History
511-539	Music Education	350-679	Music Theory
540-589	Applied Music	680-699	Research
590-599	Pedagogy		

DEGREE REQUIREMENTS

Note:

Each degree candidate is individually responsible for satisfying

degree candidacy and graduation requirements stated elsewhere in this catalogue, and for meeting deadline dates for the May, August, or December graduation, as appropriate.

Master of Music degree in Music Education. Students may choose either the thesis program of 30 semester hours or the non-thesis program of 34 semester hours. Both programs require completion of 15 credits in five core courses: Music 500, 501, 502, 503, 510. Additional course requirements are:

Thesis program: 3 credits in music education; 3 credits in applied music; 3 credits in music electives; 6 credits in research (Music 691, 692, 699).

Non-thesis program: 3 credits in music education; 3 credits in applied music; 6-9 credits in music electives; 0-3 credits in unrestricted electives; 4 credits in research (Music 691, 692, 698).

Master of Music degree in Performance. All programs require completion of 6 credits in two core courses (Music 501, 502); 17-19 credits in one of the areas of concentration described below; 3-4 credits of unrestricted electives; 2 credits in recital (Music 697).

Piano Concentration: 10 credits in individual lessons at the advanced level, Piano 565-569; 6 credits in keyboard literature chosen from Music 601, 602, 603, 604; 2-3 credits chosen from Music 546, 551, 590.

Organ Concentration: 10 credits in individual lessons at the advanced level, Organ 565-569; 6 credits in organ literature; 3 credits chosen from Organ 551, Organ 590.

Voice Concentration: 10 credits in individual lessons at the advanced level, Voice 565-569; 2 credits in ensemble, Voice 546; 3 credits chosen from Music 554 or 555, 591, 605, 628; 2-3 credits chosen from Music 556 or 557, 606, 632, 654.

Instrumental Concentration: 10 credits in individual lessons at the advanced level, Music 565-569; 2 credits in ensemble, Music 546; 5-6 credits chosen from Music 556 or 557, 592, 593, 600, 607, 608, 609, 650, 651.

Master of Music degree in Theory or Composition. Both programs require completion of 6 credits in two core courses (Music 501, 502); 17-18 credits in one of the areas of concentration described below; 3-4 credits of unrestricted electives; 3-4 credits in research (Music 692 and 699, Thesis, for Theory; Composition 699 for Composition).

Theory Concentration: 11 credits in required courses, including Music 653, 654, one course in advanced composition chosen from Music 656-658, 663; 6 credits in directed electives chosen from Music 550, 595, 651, 652, 655, 659, 660.

Composition Concentration: 12 credits in required courses, Music 651, 654, 656, 657; 5-6 credits in directed electives chosen from Music 595, 652, 653, 655, 658, 659, 660, 663.

Master of Arts degree in Music History and Literature. 6 credits in two core courses (Music 501, 502); 9 credits chosen from Music 631-636; 3 credits in elected music history; 3 credits in applied music or foreign language; 3 credits in unrestricted elective; Music 692, 699.

Offerings in Music

Symbol: Mus (unless otherwise shown)

500 Methods and Materials of Research (3)
Basic techniques and procedures. Major types of research. Methods for locating, evaluating, and interpreting evidence. Preparation of a research outline.

501 Aspects of Musical Style I (3)
Selected master works from the Middle Ages through the late 18th century. The influence of these works on musical thinking, historical, and technical.

502 Aspects of Musical Style II (3)
Selected master works of the 19th and 20th centuries.

503 Philosophical Foundations of Music Education (3)
Historical and philosophical foundations of music education. Application of principles of education to music. Major emphasis on development of a philosophy of the discipline.

510 Current Trends in Music Education (3)
Present practices and emerging developments in the broad field of music education.

511 Vitalizing Music in the Elementary School (3)
Study of song series, instruments, and materials in current use in the elementary classroom.

512 Teaching Music Listening at the Elementary Level (3)
Primarily for the elementary classroom teacher. Teaching elements of music and musical concepts, and developing aesthetic sensitivity through listening.

513 Music Education in the Elementary School (3)
For the music educator. Problems, procedures, and materials in the elementary school classroom. PREREQ: elementary music methods, teaching experience.

514 Music Education in the Secondary School (3)
The music curriculum in the secondary school. Emphasis on conceptual learning, structured curriculum, independent study, and aesthetic experience. PREREQ: secondary school music methods, teaching experience.

515 Listening Experiences in the General Music Program (3)
Approaches to listening experiences and heightened appreciation of music. Materials which elicit pupil response.

516 Administration and Supervision of School Music (3)
Administrative problems, curricular content and scheduling, in-service training of teachers, and specialized supervisory techniques for the music curriculum. PREREQ: teaching experience.

517 Psychology of Music (3)
In-depth study of learning theories as related to music education and the nature of music.

518 Music in the School Curriculum (3)
Approaches to curriculum construction. Evaluation of the music program as an integral part of the school curriculum. PREREQ: teaching experience.

519 Practicum in Music Supervision (3)
Observation and participation in music supervision in an approved public school in cooperation with qualified school personnel. Professional conferences and observations by practicum supervisor. PREREQ: graduate degree.

520 Classroom Materials for Elementary Music Programs (3)
Evaluation of the newest materials for music education; basal series; music; texts; audio-visual.

521 Classroom Materials for Secondary Music Programs (3)
Evaluation of the newest materials for music education; basal series; music; texts; audio-visual.

522 Music in the Middle School (3)
Review and critical analysis of music education in the middle school: philosophies; curriculum; practices; personnel.

523 Elementary Orff Techniques (3)
Basic Orff melodic and rhythmic techniques for the elementary classroom. Emphasis on developing concepts for individual teaching situations.

524 Intermediate Orff Techniques (3)
Continuation of Mus 523. PREREQ: Mus 523.

525 Elementary Kodaly Techniques (3)
Basic Kodaly techniques. Adaptation of teaching procedures for elementary school: rhythm; melody; movement; improvisation.

526 Intermediate Kodaly Techniques (3)
Continuation of Mus 525. PREREQ: Mus 525.

527 Projects to Individualize Music Classes (3)
Evaluating learners and prescribing meaningful modes of instruction for individuals and small groups.

528 Music in Special Education (3)
Characteristics of special pupils; adaptation of teaching techniques; materials; curriculum.

529 Instrument Repairs (3)
For instrumental teachers. Stresses proper instrument care, preventive maintenance, adjustments, and minor repairs possible with basic equipment and minimal mechanical skill.

540-541 Workshop in Music History (1)
Study of music of the Medieval, Renaissance, and Baroque Periods through performance and analysis. The course is varied according to the students' instruments and vocal ranges.

542-45 Concert Choir, Concert Band, Marching Band, Symphony Orchestra, or Wind Ensemble (1)

(Prefixes: CoB Band, CoC Choir, SyO Orchestra, Win Wind Ensemble)

Participation in preparation of programs for concert performance. PREREQ: previous performance in appropriate organizations and/or admission by audition.

546 Ensembles in Piano, Voice, Woodwinds, Brass, Strings, Percussion, or Mixed (2)

(Prefixes: KEn Keyboard, VEn Vocal, PEn Percussion, BEn Brass, WEn Woodwind, SEn String, MEn Mixed)

Study and performance in selected ensembles arranged to the specific needs of the students. PREREQ: performance ability at the major level.

547 Piano Class (Elementary Teachers) (3)

A functional study of the piano, primarily for the elementary classroom teacher. Accompanying in the classroom; rhythmic and creative activities; practical classroom materials.

548-49 Class Lessons in Woodwinds, Brass, Percussion, or Strings (2)

(Prefixes: BrC Brass, StC Strings, PeC Percussion, WwC Woodwinds)

Techniques and literature through performance. PREREQ: ability to perform at the level of a second-year student.

550 Advanced Keyboard Harmony (3)

Use of the piano as a tool in the teaching of music theory. Includes chorale harmonization, examples of the traditional sonorities, contrapuntal exercises, "free style" improvisation, and use of contemporary techniques.

551 Accompanying (3)

Principles and problems of accompanying. Vocal and instrumental literature. Studio accompanying at all levels of difficulty. PREREQ: 4 credits in piano.

552 Vocal Diction I (3)

English, Italian, and Latin diction. A laboratory course to establish correct pronunciation in singing. The phonetics of these languages are used in selected song repertoire.

553 Vocal Diction II (3)

French and German diction. A laboratory course, as described in Mus 529. Mus 529 is not prerequisite.

554-55 Opera Workshop (3)

Techniques of producing musical plays. Course study of music and acting only. Preparation of roles, coaching, conducting rehearsals. The workshop experience may lead to a public performance of the material studied.

556-57 Advanced Conducting (2)

Study and application of techniques. Ability is developed to read and conduct full scores of major works for large groups. CCo, Choral. ICo, Instrumental. PREREQ: undergraduate conducting.

558 Master Classes in Piano, Organ, Voice, Woodwinds, Brass, Percussion, or Strings (1-2)

(Prefixes: MaK Keyboard, MaO Organ, MaV Voice, MaB Brass, MaP Percussion, MaS Strings, MaW Woodwinds)

Discussion and performance of literature in the students' current repertoires. Demonstrations by the course professor and/or guest artists. PREREQ: students must be currently enrolled for individual lessons at the major or advanced performing level.

559-60 Individual Lessons at the Minor Level in Piano, Organ, Voice, Woodwinds, Brass, Percussion, or Strings (1)
Individual half-hour lessons in all areas,* once weekly. An elective course for all graduate students.

561-64 Individual Lessons at the Major Level in Piano, Organ, Voice, Woodwinds, Brass, Percussion, or Strings (1-2)
Individual half-hour lessons in all areas.* Continued study in the development of repertoire and performing skills. Students may be given permission to register for two course numbers in the same semester, earning the second credit by doing additional outside work and performing in a recital. PREREQ: completion of the performance major requirements at the undergraduate level or admission by audition.

565-69 Individual Lessons at the Advanced Level in Piano, Organ, Voice, Woodwinds, Brass, Percussion, or Strings (2-4)
Individual half-hour lessons in all areas,* once weekly. Advanced studies leading to a full-length recital at the master's level. PREREQ: completion of the performance major requirements for the Bachelor of Music degree and/or admission by audition.

590 Piano Pedagogy (3)
Principles and procedures of piano teaching at all levels. Opportunity to teach and prepare criticism. PREREQ: teaching experience or evidence of sufficient pianistic background.

591 Vocal Pedagogy (3)
Principles and techniques of teaching voice at all levels. Materials and procedures for improving tone quality of the individual and the choral group. PREREQ: teaching experience or evidence of pianistic and sufficient vocal background.

592 Marching Band Techniques and Materials (3)
Organization, music materials, care of instruments and uniforms, marching essentials, and contemporary techniques.

593 Projects in String Pedagogy (3)
Principles and procedures of string teaching. Problems in teaching string classes. Techniques, materials, and methods. PREREQ: teaching experience or evidence of sufficient background in string performance.

594-595 Pedagogy of Music Theory I-II (3) (3)
Techniques and materials for teaching music theory. 594 is not prerequisite to 595.

600 Instrumental Literature (3)
Instrumental materials for all levels of public schools. Program building and music for special occasions. Class performance, scores, and recordings are used. PREREQ: instrumental methods, performing ability.

601 Baroque Keyboard Literature (3)
The Renaissance through development of variation form and dance suite. Emphasis on performance practices, realizing ornament signs and figured basses; transferral to the modern piano; in-depth study of works of Handel, J. S. Bach, and D. Scarlatti. Some student performance required. PREREQ: Mus 224 (Keyboard Literature I) or equivalent.

602 Classical Piano Literature (3)
Literature for the early piano (1750-1830). Origin and development of the sonata; performance practices of homophonic style. Music of the sons of Bach, Haydn, Mozart, Beethoven, and Schubert. Sound and structure of the early piano. Some student performance required. PREREQ: Mus 224 (Keyboard Literature I) or equivalent.

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* Areas of performance in applied music: piano, organ, voice, flute, oboe, English horn, clarinet, bassoon, French horn, trumpet, trombone, baritone, tuba, violin, viola, cello, bass, percussion

603 Romantic Piano Literature (3)
Analysis of piano styles of Chopin, Mendelssohn, Schumann, Liszt, Brahms, Faure, Mussorgsky, Tchaikovsky, Rachmaninoff, Granados, Albeniz. Performance practices. The virtuoso etude and problems of technical execution. Some student performance required. PREREQ: Mus 225 (Keyboard Literature II) or equivalent.

604 Twentieth Century Piano Literature (3)
Seminal works and styles of this century. Debussy, Ravel, Prokofiev, Hindemith, Schoenberg, Bartok, American composers. Some student performance required. PREREQ: Mus 213 (Theory of Music IV) or equivalent.

605 Vocal Literature (3)
Classic song literature, lieder, and modern art songs. Illustrated through performance by the instructor and members of the class and by scores and recordings.

606 Choral Literature (3)
Representative examples of choral music from the various periods. Research in a selected phase of the literature required.

607 Woodwind Literature (3)
A comprehensive evaluation of materials for solos and ensembles through performance by the instructor and members of the class and by use of scores and recordings. PREREQ: performing ability.

608 Brass Literature (3)
A survey of solo, ensemble, and orchestral music for brass instruments, including consideration of teaching materials.

609 String Literature (3)
Evaluation of materials for solos and ensembles through performance by the instructor and members of the class and by use of scores and recordings. PREREQ: performing ability.

610 African and Afro-American Music (3)
Folk music, spirituals, work songs, field hollers, blues, ragtime, jazz, gospel songs, soul music, rock and roll. Includes some art music by black composers, PREREQ: an introductory music course.

621 The Art of Instrumental Music (3)
Non-technical approach to the study and enjoyment of instrumental music by major composers. Restricted to non-majors.

622 Music Criticism and Aesthetics (3)
The nature of music, including philosophies of its meaning. Study of music criticism, past and present. Exercises in reviewing concerts and recordings. An elective course for all students.

623 Bach and His Works (3)
The life of J.S. Bach; works for organ, keyboard, and other instruments; cantatas and larger choral works. Introduced with a review of contemporary trends in music, the visual arts, history, and religion as they affected his composition.

624 History of Instruments (3)
A comprehensive study of the appearance and uses of important musical instruments in Western Europe from the Middle Ages to the present according to chronology and category.

626 History of Chamber Music (3)
The history, forms, and changing styles and media of chamber music from the 16th century to the present. Principal composers are studied.

627 History of Symphonic Music (3)
How the symphony orchestra developed from the Baroque Period to the present in its function, literature, instrumentation, and performance practices.

628 History of the Opera (3)
The composers and their major contributions to the various schools of opera. PREREQ: 6 credits of history of music.

629 History of Music in the United States (3)
Analysis of music and musical trends in America from the Pilgrims to the present.

630 Music in Non-Western Civilizations (3)
The music of pre-history, or primitive people of the present time, and the history and nature of oriental music and instruments.

631 Music of the Medieval Period (3)
Development of plainsong and secular monody and beginnings and early history of polyphony to the 14th century. Consideration of contemporary trends in the visual arts, history, and literature.

632 Music of the Renaissance Period (3)
Sacred and secular music in the Age of Dufay; changing forms and styles through the music of the Franco-Flemish Groups; the frottola and related forms; Palestrina and his contemporaries. Brief consideration of contemporary trends in the visual arts, history, and literature.

633 Music of the Baroque Period (3)
Styles and forms of Baroque repertoire; contributions of the major composers; role of music and musicians in the society of the period.

634 The Classical Age in Music (3)
Changing styles and forms in: the sons of J.S. Bach; the Viennese pre-classicists; the Mannheim School; opera; Joseph and Michael Haydn, Mozart, and their contemporaries; and the early works of Beethoven.

635 Music in the Romantic Era (3)
Historical developments during the Romantic Period (circa 1800-1900). Analysis of changes and trends; comparative aspects of new forms.

636 Contemporary Music (3)
Chronological survey of 20th-century music. Development of styles. Technical aspects of changes occurring in melody, rhythm, orchestration, texture, tonality, and form.

637 Problems in Performance Practices (3)
History and analysis of special problems in realization and performance of music from the Middle Ages to the present. PREREQ: Mus 221-22 (Music in Western Civilization I-II) or equivalent.

650 Advanced Band Arranging (3)
Emphasis on arranging for school bands. Consideration given to bands with inexperienced performers and limited instrumentation. PREREQ: teaching experience and a knowledge of orchestration.

651 Advanced Orchestration (3)
Original composition for orchestra. PREREQ: a knowledge of the instruments of the orchestra and experience in their use.

652 Advanced Musical Form (3)
A detailed study of musical form, with emphasis on modifications of sonata form; vocal and instrumental forms of Baroque music; and forms which are unique.

653 Advanced Counterpoint (3)
Tonal counterpoint. Invention, canon, chorale forms, invertible counterpoint, and fugue. PREREQ: Counterpoint I at the undergraduate level.

654 Modal Counterpoint I (3)
Use of modes, musica ficta, and cadences in 16th-century music. Experience in imitation in two parts, using all note values; double counterpoint; pronunciation and setting of Latin texts.

655 Modal Counterpoint II (3)
Continuation of Mus 654. Writing in three and more voices. PREREQ: Mus 654.

656-58 Advanced Composition (3)
Free composition in larger forms for ensembles, solo voice and chorus, chamber groups, and orchestra. PREREQ: Mus 213 (Theory of Music IV) or equivalent.

659 20th-Century Musical Styles (3)
Theoretical study of the compositional techniques of representative contemporary composers, including related study of harmony and form. Creative work in the styles of the composers studied is attempted.

660 Electronic Music (3)
Materials and techniques of electronic music and their use in composition. Laboratory experience in the composition of electronic music. PREREQ: Mus 412 (Composition I) or equivalent.

661 Jazz Practices (3)
Jazz history, writing, and performance. Survey of basic jazz literature; fundamental techniques in arranging and improvising. PREREQ: Mus 213 (Theory of Music IV) or equivalent.

662 Serialism and Atonality (3)
Compositional procedures and theoretical concepts in atonal and serial works of Schoenberg, Berg, Webern, Bartok, Stravinsky, and more recent composers. PREREQ: Mus 213 (Theory of Music IV) or equivalent.

663 Seminar in Music Theory (2)
Intensive work in selected areas of music theory. Guidance in individual projects leading to significant current developments in theory. PREREQ: permission of the chairman of the Department of Theory and Composition.

680 Special Subjects Seminar (1-3)
Significant topics presented by faculty members or visiting lecturers. Designed to meet specific needs of the seminar group.

681-83 Independent Study in Music (1) (2) (3)
Individual research under the guidance of a faculty member. PREREQ: permission of instructor.

690 Introduction to Research in Music History (2)
Bibliographical materials and research methods. Ability to read at least one foreign language required. PREREQ: permission of instructor.

691-92 Research Seminar in Music (2) (1)
A research proposal with supporting procedures is developed. Guidance in individual research topics, with tutorial assistance in form and style of research writing.

696 Recital (1)
A shared (half) recital open to candidates for the Master of Music degree (Music Education concentration). In lieu of Research Report. Program notes required. PREREQ: approval by committee examination.

697 Recital (2)
A full public recital, demonstrating an understanding of various performance styles and ability to perform literature from several periods. Required of candidates for the Master of Music in applied music. PREREQ: approval by committee examination.

698 Research Report (1)

Com 699 Musical Composition (3)
An advanced composition of significant proportion, demonstrating skill in creative writing for a chosen medium.

699 Thesis in Music Education, Theory, or History and Literature (3)

Nursing

Mrs. Schoel, Chairman

ASSOCIATE PROFESSOR

Doris R. Schoel, M.S. in Ed.
University of Pennsylvania

ASSISTANT PROFESSORS

Dorris Guerrin, M.S. in Nursing
University of Pennsylvania

Shirley Harrison, M.S. in Nursing
University of Pennsylvania

Mary L. Kline, M.S. in Nursing
University of Pennsylvania

Carol R. Matz, M.S. in Nursing
University of Maryland

Offerings in Nursing

Symbol: Nsg

513 Nursing the Dying Patient (3)
The nurse's role in death and dying of aged individuals in the home, community, or institution. Crises of family and those who care for the dying; legal aspects of death; communication problems; the nursing process.

580 Vision Problems Workshop (3)
Visual problems associated with the elementary and secondary school-age populations. Screening methods, referral techniques, current modalities of treatment.

581 Hearing Problems Workshop (3)
Hearing problems associated with the elementary and secondary school-age populations. Multiple disciplines are utilized in presenting background information and current modalities of diagnosis and treatment.

582 The Nurse's Role in Care of the Developmentally Disabled (3)
Extended role of the nurse in care of the handicapped, retarded, cerebral-palsied, and the epileptic. Concepts, principles, and skills in application of physio-psycho-social and vocational rehabilitation.

583 Care of the Acutely Ill (3)
Concepts, principles, and skills in application of physio-psycho-social and vocational rehabilitation of persons having an acute illness of a cardiovascular and/or pulmonary nature.

The following undergraduate 400-level courses have been approved for graduate credit:

Nsg 413 Problems in School Nursing (3)
Nsg 432 Nursing Theories and Concepts II (3)

Philosophy

Dr. Claghorn, Chairman

PROFESSORS

George S. Claghorn, Ph.D.
University of Pennsylvania
Thomas W. Platt, Ph.D.
University of Pennsylvania
Stanley Riukas, Ph.D.
New York University
Frederick R. Struckmeyer, Ph.D.
Boston University

ASSOCIATE PROFESSORS

W. Stephen Croddy, Ph.D.
Brown University
Paul A Streveler, Ph.D.
University of Wisconsin

The Department of Philosophy offers a program leading to the Master of Arts in philosophy. This degree will serve as a foundation for studies leading to a Ph.D. in philosophy or prepare one for positions in industry, government, or college teaching.

Admission to the Program
In addition to meeting general requirements for admission to a degree program at West Chester, applicants must present a minimum of 12 hours of undergraduate philosophy, including courses in history of ancient philosophy, history of modern philosophy, ethics, and logic.

Foreign Language Requirement
Candidates for the M.A. must demonstrate a reading proficiency in French, German, or Spanish.

Final Examination Requirement
A comprehensive, written final examination is required. This will cover four fields: (1) Metaphysics; (2) Logic; (3) Ethics, Aesthetics, Philosophy of Language, Philosophy of Science, or American Philosophy; and (4) Plato, Aquinas, Kant, or Wittengenstein. For (3) and (4), the student will choose, under advisement, one of the fields listed.

MASTER OF ARTS IN PHILOSOPHY

(30 Semester Hours)

All candidates are required to take Phi 511, 536, and a seminar selected from Phi 540, 541, 542, or 543. Beyond these requirements the student has the choice of a thesis or non-thesis program.

The thesis program requires 9-12 semester hours in philosophy; 3-6 semester hours of electives, chosen from philosophy or related courses; and the thesis (Phi 610) for 6 semester hours.

The non-thesis program demands 15-18 semester hours in the philosophy concentration and 3-6 semester hours of electives (philosophy or related).

Offerings in Philosophy

Symbol: Phi

506 Meaning in Language (also Lin 506) (3)
A discussion of topics having to do with meaning in everyday oral communication.

510 Existentialism (3)
Background and themes of current existentialism, as reflected in Kierkegaard, Jaspers, Marcel, Heidegger, and Sartre. Evaluation of existentialism and its impact on contemporary literature, drama, art, and society.

511 Philosophic Concepts (3)
Basic concepts of the philosophic enterprise: form, matter, the categories, cause, and purpose. Relation of premises to method and conclusions. Rival theories are compared for justification and adequacy.

512 Contemporary Ethical Theories (3)
Examination of various ethical theories of our time: pragmatism, evolution, idealism, hedonism, natural law, and other schools. Practical applications are made to such problems as authority, punishment, rights, marriage, and race.

513 History of Aesthetics (3)
History of aesthetics, as seen in classic interpretations. Origins of art, psychological and sociological; the role of art works in the enrichment of life.

514 Philosophy of Religion (3)
Dominant trends in religious philosophy of the Western world. Religious language, reason and faith, science, the nature of man, the existence of God, and mysticism.

520 Philosophy of Mind (3)
The human mind, according to representative views. Presuppositions and implications, both scientific and philosophic, traced and analyzed. The mind-body problem; perception; memory; and the implications of depth psychology.

521 Philosophy of the Social Sciences (3)
Philosophic issues in the social sciences; laws, procedures, and prediction. The formation of concepts and theories; evaluation of evidence and cause; determination of patterns and goals.

522 Philosophy of Science (also Sci 522) (3)
The course begins with case studies in science and derives general principles from them. Scientific law, analogy, models, variant theories, confirmation, and interpretation.

523 Philosophy of Language (also Lin 523) (3)
Problems of language and oral communication, with emphasis on problems of reference.

528 Colonial American Philosophy (3)
Early American views of man, the world, and history. European heritage, native adaptations, and developments preparing for the Revolution. Emphasis on Jonathan Edwards as a representative philosopher.

530 Modern American Philosophy (3)
Peirce, James, and Dewey; the origin, development, and nature of their philosophy; their influence on American life. Pragmatic views of knowledge, ethics, law, and society.

531 Oriental Philosophy (3)
Central figures and classic teachings of Eastern philosophy and religion: Islam, Hinduism, Buddhism, Confucianism, Taoism, and Shintoism; naturalistic and humanistic elements of decisive influence on the culture of the Orient.

536 Symbolic Logic (3)
Basic principles and methods of symbolic logic. Practice in determining validity of sentential and quantificational arguments. The algebra of classes.

540 Plato Seminar (3)
Plato's life, development, and doctrines. Several chief dialogues from the standpoint of critical interpretations.

541 Aquinas Seminar (3)
Major themes of St. Thomas from the *Summa Theologica* and the *Summa Contra Gentiles.* His view of man, the good, the beautiful, the true, the state, the world of Nature, and of God.

542 Kant Seminar (3)
A study of Kant's *Critique of Pure Reason,* with reference to his development and his contributions to ethics, aesthetics, and philosophy of religion.

543 Wittgenstein Seminar (3)
A study and evaluation of Wittgenstein's principal works, the *Tractatus and Philosophical Investigations;* his influence; the implications of his work for perennial problems of philosophy.

590 Independent Studies in Philosophy (3)

610 Thesis (6)

PHYSICAL EDUCATION—see Health and Physical Education

Physical Science Program

(Interdepartmental)

Coordinators: Dr. Bravo (Chemistry), Dr. Greenberg (Earth Sciences), Dr. Smith (Physics)

A degree program designed primarily for those who teach the physical sciences in secondary school or junior college is given on an interdepartmental basis through the Departments of Chemistry, Earth Sciences, and Physics.

Leading to the Master of Arts degree, the program makes it possible for students to plan a sequence of studies meeting their individual needs. This may be accomplished either through selections from each of the disciplines or by concentrating in one of them.

Entrance Requirements

Students entering the program are normally expected to have a bachelor's degree in science or science education and, if teaching in the public schools, a valid teaching certificate.

MASTER OF ARTS IN PHYSICAL SCIENCE

(34 Semester Hours)

Science education requirements for the program must be met with ESS 500—Modern Trends in Science Education and PhS 502—Modern Trends in Teaching Physical Science. A science elective area of at least 29 semester hours is developed, under advisement, from selections in chemistry, earth sciences, marine science, and physics. It is also possible to concentrate the elective area in either chemistry, earth sciences, marine science, or physics.

At the end of the program the student must pass a comprehensive examination dealing with topics he or she would ordinarily teach.

For course offerings see Chemistry, Earth Sciences, Marine Science, and Physics.

Physics

Dr. Skelton, Chairman

PROFESSORS

Russell K. Rickert, Ed.D.
New York University
Mary L. Shoaf, Ph.D.
Purdue University
Frank A. Smith, Jr., Ed.D.
Temple University
Stanley J. Yarosewick, Ph.D.
Clarkson College of Technology

ASSOCIATE PROFESSORS

Robert W. Hawkes, M.S.
Pennsylvania State University
Brent Kaplan, M.M.E.
New York University
Harold L. Skelton, Ph.D.
University of Delaware

The Department of Physics is one of three departments within the School of Sciences and Mathematics offering a degree program leading to the Master of Arts in physical science. *See Physical Science Program.*

Offerings in Physical Science and Physics

PHYSICAL SCIENCE

PhS 502 Modern Trends in Teaching Physical Science (2)
Materials and techniques in secondary-school physical science.

PhS 504 Foundations of Physics (3)
Introduction to classical physics; vectors, mechanics, waves.

PhS 505 Modern Concepts in Physics (3)
Introduction to electricity and magnetism, the nature of radiation, quantum and atomic physics, radioactivity. PREREQ: PhS 504 or equivalent.

PhS 506 Seminar in Physical Science (1)
Topics depend on backgrounds and interests of the students. PREREQ: 3 graduate courses in physical science.

PhS 507 Modern Trends in Physical Science (3)
Recent developments in physical science and their relation to secondary school science. Topics depend on backgrounds and needs of students.

PhS 510 Electronics (3)
Electronic circuits are analyzed, constructed, and tested. PREREQ: general physics.

PhS 511 Electricity (3)
Analysis of the principles of electricity and electromagnetism. PREREQ: differential and integral calculus, general physics.

PhS 512 Mechanics (3)
Mathematical analysis of dynamics and statics. PREREQ: differential and integral calculus, general physics.

PhS 513 Modern Physics (3)
Twentieth-century contributions and ideas, including special relativity, quantum theory, atomic structure, solid state structure. PREREQ: general physics.

PhS 524 Experimental Physics (1-3)
Experiments in modern and atomic physics, selected to suit backgrounds and interests of the students. PREREQ: atomic or modern physics.

PhS 570 Chemistry for the Elementary Teacher (3)
Basic concepts in chemistry and their application to the elementary school program.

PhS 571 Physics for the Elementary Teacher (3)
A study of topics in physics selected for their applicability to the elementary school curriculum. Topics include crystals and crystal growing, light, motion, heat, and electricity.

Phs 590 History of the Physical Sciences (3)
From Aristotelian concepts to modern scientific concepts.

PhS 592 Independent Studies (1-3)

PHYSICS

Phy 513 Analytical Dynamics (3)
Wave propagation; Lagrange's equations and Hamilton's principle; rigid body motion; special relativity.

Phy 514 Heat and Thermodynamics (3)
Equations of state; first and second laws of thermodynamics; ideal and real gases; entropy; statistical mechanics.

Phy 515 Mathematical Physics I (3)
Topics of mathematics applied to problems in physics. Topics include ordinary differential equations, complex variables and hyperbolic functions, vector calculus, and numerical analysis.

Phy 532 Nuclear Physics (3)
Basic nuclear properties, nuclear structure, alpha and beta decay, gamma radiation, nuclear reactions, particle accelerators, detection equipment, and elementary particles.

Phy 533 Nuclear Physics Laboratory (1)
Ordinarily accompanies Phy 532. Preparation and handling of radioactive samples and examination of nuclear decay characteristics and reactions. With instructor's approval, Phy 533 may be elected without concurrent enrollment in Phy 532.

Sci 522 Philosophy of Science (see Phi 522)

POLITICAL SCIENCE—see Government and Politics

Psychology

Dr. Clark, Chairman
Dr. Sands, Coordinator for the Graduate Program in Psychology

PROFESSORS

Elise Bartholomew, Ph.D.
Harvard University
Jay L. Clark, Ph.D.
University of Minnesota
Ruth C. Feldman, Ed.D.
Temple University
Martin J. Higgins, Ph.D.
University of Maryland
Walena C. Morse, Ph.D.
Bryn Mawr College
Jack Porter, Ed.D.
Temple University
Harold R. Sands, Ph.D.
Pennsylvania State University

ASSOCIATE PROFESSORS

Bernard B. Cohen, Ph.D.
New York University
Kenneth L. Jackman, Ph.D.
University of Wyoming
Louis H. Porter, Ph.D.
Howard University
Elizabeth H. Pottieger, M.A.
Temple University
Robert R. Shinehouse, M.A.
Temple University

ASSISTANT PROFESSOR

Carolyn A. Gingrich, Ph.D.
George Peabody College

Three degree programs are given by the Department of Psychology. The first leads to the Master of Arts in psychology; the second to the Master of Arts in social science with a concentration in psychology. The third, offered in cooperation with the School of Education, leads to the Master of Education in social science with a concentration in psychology.

For admission and diagnostic purposes applicants for all of the programs will be asked to submit Graduate Record Examination scores.

MASTER OF ARTS IN PSYCHOLOGY

(33 Semester Hours)

Required courses are Psy 503-504-505-506-512. In a required area of research, the candidate has the option of writing a research

report (Psy 600), a thesis (Psy 610), or undertaking an internship in an applied setting (Psy 615).

Depending upon the number of hours devoted to research (from 2 to 6), the student takes from 12 to 16 semester hours of electives in psychology, chosen under advisement from the offerings shown below. With permission of the department two of the elective courses (not more than 6 semester hours) may be free electives selected from the offerings of any School in the College.

MASTER OF ARTS IN SOCIAL SCIENCE

Concentration: Psychology

(30 Semester Hours)

The Master of Arts in social science, an interdisciplinary degree within the School of Social and Behavioral Sciences, is particularly designed for teachers desiring strengthened subject-matter knowledge in more than one academic discipline. The program also prepares for careers in government and industry and is appropriate for those desiring cultural enrichment. The concentration in psychology is especially recommended for students whose interests are directed toward human concerns and services. Candidates in this concentration are advised by the Department of Psychology.

Requirements

In the research area Psy 503-504 are required. The student must take from 9 to 12 additional semester hours of psychology courses, selected under advisement. Within the concentration a research report (Psy 600), a thesis (Psy 610), or an internship in an applied setting (Psy 615) may be recommended.

Beyond the psychology concentration the student must complete 12 semester hours of social science electives chosen from at least two departments other than Psychology within the School of Social and Behavioral Sciences. Finally there is a cognate elective area of 0-3 semester hours, to be chosen from any School in the College.

MASTER OF EDUCATION IN SOCIAL SCIENCE

Concentration: Psychology

(34 Semester Hours)

From 10 to 12 semester hours of professional education are required. (See page 75—School of Education.)

The psychology concentration requirement of 20-22 semester hours must include Psy 503-504. A required research area within the concentration may be met with either a research report (Psy 600), a thesis (Psy 610), or with an internship assignment (Psy 615). Additional psychology courses for the concentration are

chosen under Department of Psychology advisement.

The remaining elective area of 0-4 semester hours is fulfilled either with academic or professional-education course work, under advisement.

Offerings in Psychology

Symbol: Psy

501 Introductory Statistics for the Behavioral Sciences (3)
Central tendency, variability, standard scores, correlation, probability, sampling, tests of hypotheses, "t" test, chi square, distribution-free statistics, introduction to analysis of variance.

502 Advanced Statistics for the Behavioral Sciences (2)
Special correlational methods, analysis of variance, and analysis of covariance. PREREQ: Psy 501.

503-504 Research Methodology and Statistics I-II (3) (3)
Usefulness of the experimental method is discussed through analysis of the assumptions and limitations of classical research designs. Hypothesis testing and statistical decision-making; parametric and nonparametric statistical analysis. In Psy 503 the student develops a research proposal leading to a research project which is completed in Psy 504. 503 must precede 504.

505 Advanced General Psychology (3)
Lectures and readings for a deeper understanding of human behavior through intensive consideration of learning, memory, cognitive processes, motivation, emotion, human development, personality, and group processes.

506 Theories of Learning (3)
Survey and critical review of existing theories of learning and the relevant research data.

507 Advanced Child Psychology (3)
Research findings and theoretical issues during the period from birth to pubescence with emphasis on cognitive development, learning, motivation, emotional development, socialization, perception, and biogenic factors.

508 Advanced Adolescent Psychology (3)
The psychodynamics of age 12-21 and the effects of this period on social and educational growth. Such processes as physiological changes, personality development, learning, and psychosexual development are considered.

509 Advanced Social Psychology (3)
Current problems and research with emphasis on application and experimental techniques.

512 Psychology of Personality (3)
The interaction and effects of forces which affect personality development. Normal and neurotic development contrasted; principles of personality measurement explored.

517 Introduction to Psychopathology (3)
Advanced study of abnormal development and a description of pertinent types, including symptoms, causes, and treatment. Current and recent theoretical approaches and research findings relevant to the etiology and treatment of these disorders. PREREQ: Psy 375—Abnormal Psychology or equivalent, or permission of instructor.

524 Psychometrics (3)
A survey of measurement theory in psychology with emphasis on the logic of measurement, scaling models, statistical methods, construction of valid measures. Advanced techniques for assessment of reliability.

527 Behavior Modification (3)
Application of learning principles and environmental control to behavior change. Foundation principles, techniques and assessment, methods of modification.

529 Advanced Mental Hygiene (3)
Ways of achieving positive mental health, including ways people can improve their mental health through their own efforts.

544 Individual Psychometric Techniques: Wechsler & Binet Scales (3)
Historical development, administration, scoring, and interpretation of the Wechsler and Binet scales. PREREQ: Psy 501 and permission of instructor.

549 Introduction to Projective Techniques and Personality Testing (3)
History and theory of personality testing. Practical applications typical of clinical and educational settings.

550 Seminar in Psychology (1-3)
Selected problems in psychology. Subject announced in advance of each semester.

559 Psychotherapy (3)
Techniques and problems involved in counseling and psychotherapy. PREREQ: Psy 390—Principles of Counseling and Psychotherapy or equivalent.

590 Independent Studies in Psychology (1-3)
Research projects, reports, readings in psychology. PREREQ: approval of department chairman.

595 Clinical Psychology (Child and Adolescent) (3)
Survey of clinical techniques used in assessment and treatment of childhood and adolescent personality disorders.

596 Clinical Psychology (Adult) (3)
Theoretical foundations of clinical evaluation, screening, and treatment methods. Emphasis on clinical psychology as a profession.

600 Research Report (2)

610 Thesis (3)

615 Clinical Practicum in Psychology (2-6)
Supervised professional participation in applied psychological activities or projects in cooperating agencies and institutions.

Science Education

Offerings in Science Education

ScE 500 Modern Trends in Science Education (3)
Introduction to current research in science education; a critical review of the literature.

ScE 510 Workshop in Secondary School Curricula (3)
Study of one of the commonly used science programs for secondary schools. The selected program is announced in advance.

ScE 520 New Trends in the Elementary School Science Curriculum (3)
New developments in the elementary-school science curriculum for in-service elementary school teachers and administrators.

ScE 523 Instructional Materials in Elementary Science (3)
Acquaints elementary-school teachers and administrators with instructional materials for the elementary-school science program.

ScE 595 Elementary School Science Instruction (3)
A course to improve the science content backgrounds of elementary-school teachers and administrators.

ScE 596 Workshop in Elementary School Science Instruction (3)
A study of one or more science programs for the elementary school. Especially for teachers using the selected program or programs. Selections announced in advance.

SCIENCE OFFERINGS DESIGNED FOR ELEMENTARY SCHOOL TEACHERS

ESS 521	Geology in the Elementary School
ESS 556	Workshop in Aerospace Science
ESS 571	Astronomy in the Elementary School
PhS 570	Chemistry for the Elementary Teacher
PhS 571	Physics for the Elementary Teacher
ScE 520	New Trends in the Elementary School Science Curriculum
ScE 523	Instructional Materials in Elementary Science
ScE 595	Elementary School Science Instruction
ScE 596	Workshop in Elementary School Science Instruction

SOCIAL SCIENCE—see History for social science courses. For degree programs in social science see Anthropology and Sociology, Geography and Planning, Government and Politics, History, and Psychology.

SOCIOLOGY—see Anthropology and Sociology

Speech Communication and Theatre

Dr. Morehouse, Chairman

PROFESSOR

William M. Morehouse, Ph.D.
Purdue University

ASSOCIATE PROFESSORS

Jay H. Berkowitz, M.A.
Temple University
Diane O. Casagrande, M.A.
Temple University
Myles Martel, Ph.D.
Temple University

Offerings in Speech Communication

Symbol: Sph

515 General Semantics (also Lin 515) (3)
Introduction to the relativistic language concepts of Korzybski and his followers. The course focuses on what language does to people and the subsequent effects on communication.

525 Communication in the Classroom: Models and Approaches (3)
For teachers in grades K-12 interacting together to share experiences and channel their thoughts into the development of speech communication activities which can fit into and enhance their present curricula.

550 Listening: Theory and Method (3)
A survey of research in listening behavior and related nonverbal variables. Identification of important characteristics of effective listeners. Application to communication activities in the classroom.

Offerings in Theatre

Symbol: ThA

506 Theatre Theory and Production (3)
A survey of theatre history and practice. Students select specific areas of production and style for classroom presentation, analysis, and research.

516 Theory and Application of Creative Dramatics (3)
The use of creative dramatics as a teaching method. Research and application of theories and techniques.

536 Producing the Television Program (Nondramatic) (3)
Basic concepts of television planning and production for the nondramatic format. The student uses the tools of television. (Lecture and laboratory.)

537 Television Program Directing (Dramatic) (3)
Continuation and development of skills and knowledge in the use of television equipment; application of the arts of the theatre and film. (Lecture and laboratory.) PREREQ: ThA 536.

Speech Pathology and Audiology

Dr. Aungst, Chairman
Dr. Griffith, Graduate Coordinator

PROFESSOR

Rita V. Griffith, Ph.D.
Ohio State University

ASSOCIATE PROFESSORS

Lester F. Aungst, Ph.D.
Pennsylvania State University
Susan Maxwell, M.A.
Ohio University
Frank E. Peterson, M.A.
Columbia University
Vincent V. Suppan, M.A.
Columbia University

ASSISTANT PROFESSORS

Leila B. Alson, M.A.
Ohio University
John L. Eberhart, M.A.
Syracuse University
Adele Lipscomb, M.A.
Pennsylvania State University
Joseph A. Stigora, Ph.D.
Bowling Green University
Lynn H. Swingle, M.S.
Purdue University

The Department of Speech Pathology and Audiology offers the Master of Arts degree in speech pathology. The student may choose a thesis or non-thesis program. Either program is designed to strengthen the knowledge and skill of the practicing speech clinician, to provide the foundation for further graduate study, and to afford opportunity to complete requirements toward professional certification by the American Speech and Hearing Association. Attainment of the master's degree does not necessarily guarantee recommendation for certification.

MASTER OF ARTS IN SPEECH PATHOLOGY

(30 Semester Hours)

Admission to the Program
In addition to meeting the general requirements for admission to a degree program at West Chester, applicants must:
1. Present an undergraduate background of at least 15 semester hours in the following areas of study: speech and language development, phonetics, introduction to speech disorders, introduction to audiology, and basic speech and hearing science.
2. Demonstrate a reasonable degree of speech and language proficiency.

3. At the discretion of the department, submit Graduate Record Examination scores for purposes of evaluation and guidance.

Admission to Degree Candidacy

1. The applicant may apply for degree candidacy after he has completed SpP 501 and two additional departmental graduate courses; application must be made before the student has completed 15 semester hours of graduate work required for the degree.
2. During the pre-candidacy period the applicant must maintain an overall average of at least 2.75 and a minimum average of 3.00 in departmental courses.
3. The applicant must have demonstrated satisfactory performance in clinical practicum.

Requirements for the Degree

1. The candidate must meet the general College requirements for the master's degree, including completion of all required courses with an overall average of at least 2.75 and a minimum average of 3.00 in departmental courses.
2. The candidate must perform satisfactorily on a comprehensive written and/or oral examination, which may not be taken before the student's final semester of course work. Those who fail the examination may repeat it once. The interval between the two examinations may not exceed two years.
3. The candidate must complete satisfactorily SpP 501, three semester hours of graduate clinical practicum (SpP 560),* and 24 additional semester hours, chosen under advisement.

Offerings in Speech Pathology and Audiology

Symbol: SpP

500 Survey of Speech Disorders (3)
Description, etiology, and management of communication disorders. Introduction to the field of speech pathology and its interrelationships with other professions. Open to non-majors with no previous coursework in speech pathology. Not open to students with credit for SpP 201 or equivalent.

501 Foundations of Research in Speech Pathology (3)
Introudction to the scientific process and to the interpretation and application of research in the speech sciences. A research project outline required.

510 Articulation Disorders (3)
In-depth study of disorders of articulation.

511 Voice Disorders (3)
Examination of classification, etiology, diagnosis, and therapy for functional, organic, and psychological voice disorders.

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* Although the student may elect more than 3 semester hours of clinical practicum for personal objectives, no more than 3 may be counted toward the degree

512 Language Disorders (3)
Examination of the neurological, psycholinguistic, and social dimensions of language. Developmental and acquired language disorders discussed in terms of etiology and preventive and corrective therapy.

513 Stuttering (3)
Consideration of the nature, causes, diagnosis, and treatment of stuttering and related disorders of speech flow. Critical review of pertinent research. PREREQ: SpP 203 or equivalent, or permission of department.

514 Aphasia (3)
Etiologic factors of aphasia and dysphasia are reviewed. Measures for diagnosing and appraising communication impairments in brain-damaged individuals. Problems and therapeutic techniques considered at both adult and childhood levels.

515 Orofacial Anomalies (3)
Comprehensive consideration of the nature, causes, diagnosis, and treatment of communication disorders associated with orofacial anomalies, particularly cleft lip and cleft palate. PREREQ: SpP 290 or equivalent, or permission of department.

516 Neuromuscular Disorders (3)
Nature, causes, diagnosis, and treatment of communication disorders associated with neuromuscular dysfunction, with particular attention to the cerebral palsies.

520 Seminar in Speech Pathology (3)
Selected theoretical and clinical areas of speech pathology and related disciplines. Topics vary each semester according to research developments and student needs. PREREQ: permission of instructor.

525 Advanced Diagnostic and Therapeutic Methods in Speech Pathology (3)
Current and advanced evaluative and therapeutic methods and materials applicable to the diagnosis and remediation of communication disorders.

531 Therapy for the Hearing Impaired (3)
Evaluative and therapeutic materials and methods applicable to the improvement of communication in hard-of-hearing individuals.

532 Advanced Audiometry (3)
A lecture-laboratory course which explores clinical techniques for the measurement of hearing. Basic measures are reviewed. Advanced differential techniques are studied with some opportunity to develop competence in administering these tests during lab periods. PREREQ: SpP 301 or equivalent.

535 Seminar in Audiology (3)
Selected areas in audiology and related disciplines. Topics vary each semester according to developments in research and student needs. PREREQ: permission of instructor.

550 Experimental Phonetics (3)
Advanced study of acoustic and psychoacoustic aspects of sound. Introduction to instrumentation for transmission, analysis, and modification of speech sound. PREREQ: an introductory course in phonetics or equivalent.

560 Graduate Clinical Practicum (1)
Supervised practice in the Speech and Hearing Clinic and/or in affiliated clinics. Designed to increase diagnostic and therapeutic skills with children and adults who have communication problems. May be repeated. PREREQ: SpP 350 or equivalent and permission of department.

570 Administration and Supervision of Speech and Hearing Programs (3)
Nature and scope of supervisory positions in speech and hearing programs. Emphasis on administrative problems.

590 Independent Study (1-3)
Individualized research projects, reports, and/or readings in speech pathology or audiology under faculty supervision. PREREQ: approval of department chairman.

610 Thesis (1-6)

STATISTICS—see Mathematical Sciences

Teaching English as a Second Language

Coordinators: Dr. Falgie and Dr. Smith

Diane O. Casagrande, Associate Professor of Speech
W. Stephen Croddy, Associate Professor of Philosophy
Joseph Falgie, Jr., Professor of English and Linguistics
John T. Kelly, Associate Professor of English
Benjamin Nunez, Professor of Foreign Languages and Linguistics
Willie E. Page, Jr., Associate Professor of English
Philip D. Smith, Jr., Professor of Foreign Languages and Linguistics

The School of Arts and Letters offers the Master of Arts in teaching English as a second language, an interdisciplinary program contributed to by the Departments of English, Foreign Languages, Philosophy, and Speech Communication and Theatre. The program is designed for those who are preparing to teach English as a second language. It includes the application of linguistic principles, methodology, and appropriate cultural studies necessary for the successful teaching of English to persons whose native language is not English. The program also has relevance to the teaching of other languages as second languages, as well as to the teaching of a second dialect. Students wishing to enter the program must consult one of the coordinators.

In addition to meeting the general requirements for a master's degree at West Chester, the candidate must:

1. Submit satisfactory scores in the verbal and quantitative tests of the Graduate Record Examination at or before the completion of 6 semester hours of graduate work, and satisfy the requirements for admission to the degree program.

2. Demonstrate adequate proficiency in a foreign language. Non-native speakers of English must demonstrate adequate proficiency in English.

3. Pass a written and/or oral comprehensive examination, offered on the second Wednesday of November and April. After the completion of 27 semester hours of course work and no later than two weeks prior to the date of the examination, a student may file with the coordinators a written request to take the examination. A student who fails the examination twice must obtain the approval of the coordinators to take it a third and final time.

4. Fulfill the course requirements of the program and take any additional course work deemed necessary by the coordinators (e.g., admission deficiencies; cultural, language, or literary deficiencies in the student's second language; teaching of reading for students having no prior training in this area).

M.A. IN TEACHING ENGLISH AS A SECOND LANGUAGE (TESL)

(33 Semester Hours)

Course requirements for the program are fulfilled with 24 hours of required work and 9 hours of electives.

Required courses are: Lan 500-502-503; Lin 501 and either Lin 502 or 509; Eng 502-508-515.

Students submitting equivalent undergraduate or graduate courses for any of the above may substitute, under advisement, courses from Group 1.

Electives must be chosen under advisement and be composed of either three courses from Group 1 or two from Group 1 and one from Group 2.

Group 1
Eng 510-Eng 519-Lan 504-Lan 590-Lan 600-Lin 502-Lin 503-Lin 504-Lin 505-Lin 509-Lin 580-Lin 590-Phi 506-Phi 523-Spa 711*-Sph 515.

Group 2
Eng 503-Eng 507-Fre 511-Fre 515-Ger 511-Ger 515-Spa 511-Spa 514.

For descriptions of courses under this program see English (Eng); Foreign Languages (Lan, Fre, Ger, Spa); Linguistics (Lin); Philosophy (Phi); and Speech Communication and Theatre (Sph).

THEATRE—see Speech Communication and Theatre

* Spa 711 is an undergraduate course (Spa 411—Seminar in Puerto Rican Culture) approved for graduate credit

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RAMSEY HALL
TYSON HALL
GOSHEN HALL
WATER TOWER
BOILER PLANT
PARKING "C"
ELECTRIC SUBSTATION
LAWRENCE CNTR
MAINT GARAGE
LAUNDRY
MAINT BLDG
"D" PARKING
ENINGER GYM
HOLLINGER FIELD HOUSE
SPECIAL EDU BLDG
SOUTH NEW STREET
Athletic Field
SANDERSON HALL
Athletic Field
SCHMUCKER SCIENCE CNTR
SCHMIDT HALL
WAYNE HALL
KILLINGER HALL
PARKING "H"
MC CARTHY HALL
MITCHELL HALL
REYNOLDS HALL
PARKING "D"
SWOPE HALL
EAST NIELDS ST.
COLLEGE AVENUE
ADMINISTRATION BLDG
PHILIPS MEMORIAL
"O" PARKING
LINDEN ST
ANDERSON HALL
MAIN HALL
RECITATION HALL
OLD LIBRARY
FRANCIS HARVEY GREEN LIBRARY
SOUTH CHURCH ST
SOUTH HIGH STREET
SOUTH WALNUT STREET
EAST ROSEDALE AVE
LEARNING RESEARCH CENTER
PRESIDENT'S RESIDENCE
TO SOUTH CAMPUS
Tennis Courts
PARKING "AF"
ROSLYN AVE.
COLLEGE UNION
PARKING "K"
CHURCH STREET
NORFOLK AVENUE

Communications Directory

Admission/Catalogs	Dean of Graduate Studies, Administration (2243)
Business/Fiscal Matters	Director of Business Affairs, Phillips (2211)
Cultural Affairs/ College Events	Director of Cultural Affairs and College Events, Lawrence (2935)
Financial Aid to Students	Director of Financial Aid to Students, Lawrence (2627)
Housing	Associate Dean for Student Development, College Union (3305)
Intracollegiate Governmental Association (IGA)	Intracollegiate Governmental Association, College Union (2955)
Library Services	Francis Harvey Green Library (2946)
Placement/Career Services	Career Development Center, Lawrence (2501)
Research/Related Services	Learning Research (2835)
Veterans' Affairs	Office of Veterans' Affairs, Administration (2668)

IN CONG
Benjamin Franklin
Dilworthtown Oak
WESTTOWN BOARDING SCHOOL, CHESTER CO PA

A Summer Place . . .

WEST CHESTER STATE COLLEGE

1977 SUMMER GRADUATE COURSES

STRUCTURE OF THE COLLEGE

West Chester State College is divided into six schools each under the direction of a dean. Graduate course offerings are divided among the schools as follows:

School of Arts and Letters

Art
English
Foreign Languages
Philosophy
Speech Communication and Theatre
Speech Pathology and Audiology

School of Education

Counselor Education
Educational Research
Elementary Education
Instructional Media Education
Reading
Secondary Education and Professional Studies
Special Education
Urban Education

School of Health and Physical Education

Health
Health and Physical Education

School of Music

Music Education
Music History and Literature
Music Theory and Composition
Instrumental Music
Keyboard Music
Vocal and Choral Music

School of Sciences and Mathematics

Biology
Chemistry
Earth Sciences
Mathematical Sciences
Nursing
Physical Science

School of Social and Behavioral Sciences

Anthropology, Sociology, and Social Welfare
Criminal Justice
Geography and Planning
Government and Politics
History
Psychology

For the convenience of readers the arrangement of course offerings is alphabetical by field or area of study.

All correspondence should be directed to

The Graduate Office
Room 205 — Old Demonstration School
West Chester State College
West Chester, Pa. 19380

Telephone: (215) 436-2243

WEST CHESTER STATE COLLEGE
GRADUATE
SUMMER SESSIONS
1977

ACCREDITATION

West Chester State College is accredited by The Middle States Association of Colleges and Secondary Schools, The National Council for Accreditation of Teacher Education, The American Association for Health, Physical Education and Recreation, The National Association of Schools of Music, The Council on Social Work Education and The American Chemical Society. West Chester State College is a member of The Council of Graduate Schools in the United States.

IMPORTANT NOTES

The times and days of classes are subject to change.

Each summer session offering is contingent upon adequate enrollment and the judgment of the college.

This catalog is not to be regarded as an irrevocable contract between the student and West Chester State College.

Admission to summer session classes does not imply admission to graduate programs.

Fees are subject to change without notice.

West Chester State College is committed to compliance with all applicable Federal and State non-discrimination statutes. Educational programs, activities, and employment at the college are provided without regard to marital status, race, color, national origin, sex, sexual orientation, age or religious creed. In addition, the college attempts to remove any barriers and to provide opportunity for education and employment of handicapped persons. Inquiries regarding compliance with this policy may be directed to Ms. Jeanette Sam, Director of Affirmative Action, Smith House, West Chester State College, telephone (215) 436-2838.

Governor's Management Directive, M410.2, 10/11/76

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Celebrate summer at West Chester State College this year amid the country of Wyeth landscapes and colonial battlefields—yet only a short ride away from metropolitan Philadelphia or Wilmington. The best of the city and country combine at West Chester to offer every facet of summer celebration and cerebration.

Whatever the reasons for considering summer school—acceleration of a degree program, personal enrichment, grade improvement, change of major, study vacation or a myriad of other possibilities—West Chester is the school to consider.

Taking courses needn't interfere with vacation plans. West Chester's arrangement of a three-week Pre-Session in June, a six-week Regular Session from late June to early August and a three-week Post Session in August make it easy to arrange vacation schedules.

Built-in vacations are part of some courses, such as the study tours Astronomy in England (ESS 580), Geology of England (ESS 581), or Field Studies—Bermuda (Geo. 591).

Other courses such as the art, dance, and theatre workshops reflect the free spirit of summer as students produce serious work in an informal atmosphere.

Still other courses are in themselves celebrations of summer. Five-day mini courses in biology in summer wildflowers (Bio 516), common trees (Bio 515), and the living forest (Bio 512) study "This whole Experiment in Green" first hand as does the Environmental (Outdoor) Education Workshop (EdO 511) in which white-watering and camping are only a few of the planned activities.

West Chester is more than just a summer celebration, however. If you would like more information about the college, fill in the coupon in the back of this catalog. Chances are you'll want to rejoice in all the seasons at West Chester.

Graduate Programs at West Chester

CERTIFICATION AND/OR MASTER OF EDUCATION

Biology
Counselor Education*
  Elementary School Counseling
  Secondary School Counseling
Driver Education and
  Safe Living**
Elementary Education
English
French
Geography
German
Health
Health and Physical
  Education
Instructional Media
  Education
Latin
Mathematics
Reading
Secondary
  Education
Social Science
  Concentrations in:
  Anthropology-
    Sociology
  Geography
  History
  Political Science
  Psychology
Spanish
Special Education:
  Teaching the
  Emotionally
  Disturbed**
  (Offered periodically, as announced)

MASTER OF ARTS

Biology
English
French
Geography
History
Mathematics
  Options in:
  Pure Mathematics
  Mathematics Education
  Applied Computer Science
Music History
Philosophy
Physical Science
Psychology
Social Science
  Concentrations in:
  Anthropology-
    Sociology
  Geography
  History
  Political Science
  Psychology
Spanish
Speech Pathology
Teaching English
  as a Second
  Language

MASTER OF MUSIC

Music Education
Music Theory or
  Composition
Performance

MASTER OF SCIENCE

Chemistry
Criminal Justice
Educational Research
Health
Health and Physical
  Education
Instructional Media

*At West Chester State College, the master's degree is required for those seeking certification in Counselor Education.
**Certification only.

GENERAL INFORMATION

West Chester's summer program takes place in three sessions of three, six and three weeks, respectively. Any student taking a summer course at West Chester is entitled to make full use of all the college's resources—and they are extensive.

As one of the largest of the State's 14 institutions of higher learning, West Chester State College is a multi-purpose, comprehensive school now in its second century. Among the many programs offered (shown opposite) are those in teacher education, music, professional preparation, arts and sciences. New courses of study and programs at the graduate level are constantly being developed. For complete details, consult the Graduate Catalog available from the Graduate Office located in the Old Demonstration School or by sending the coupon in the back of this publication.

The Graduate Office is open Monday through Friday 8:00 a.m. to 4:30 p.m. through May 27. From June through August, the office closes at 4:00 p.m.

HOW TO REACH WEST CHESTER

The Borough of West Chester is easily accessible from all directions both by car and public transportation. Route 3, the West Chester Pike, leads directly into town from center-city Philadelphia. From the Pennsylvania Turnpike, motorists traveling west should take Route 202 south from the Valley Forge Interchange while those traveling east can arrive via Route 100 south from the Downingtown Interchange. From the south, Route 202 from Wilmington and Routes 100 and 52 from U.S. Route 1 all lead to West Chester.

By public transportation, SEPTA buses run from the 69th Street Terminal in Philadelphia into the center of town while the Penn Central Railroad also operates a limited schedule from Philadelphia's 30th Street and Suburban Stations to West Chester.

A LOOK AT THE TOWN AND COUNTRY. Located in a basically agricultural region within easy commuting distance of several major metropolitan areas, West Chester offers the best of the worlds of city, country, small town and suburbia. A community of approximately 20,000, the town is about 25 miles west of Philadelphia and 17 miles north of Wilmington, Delaware. The interstate highway system and good rail connections make New York City and Washington, D.C. also easily accessible.

West Chester is the county seat of Chester County and the hub of activity for the surrounding area. It is a marketing, banking, social services and library center as well as a focus of light industry.

Despite recent rapid growth, West Chester retains its own special flavor and historical dignity. Originally settled by the Quakers during colonial times, the town still has streets lined with well-kept 19th Century brick houses, many with detailed ornamental iron decoration from nearby forges. West Chester residents are proud of their historical community and take care in preserving its many architectural gems including public buildings, churches and homes.

History, art and architecture buffs can have a real field day . . . and another and another . . . in Chester County. Within short driving distance are Valley Forge, Longwood Gardens, a Mushroom Museum, the Brandywine River Museum (full of paintings by the Wyeth family and other members of the Brandywine School) and the Brandywine Battlefield.

Other nearby points of interest include Anthony Waynes' farm

home (Waynesborough) and his grave at St. David's Church, the house once occupied by poet Sidney Lanier, the Mason & Dixon Star-gazer's Stone, St. Peter's village noted for its old houses and quaint shops, and numerous beautiful and interesting houses and barns for which the county is highly famed.

Chester County's enthusiasm for its many cultural and historical sites is contagious so that even those whose interests generally lie in other areas are often soon caught up in the flavor and feeling of the area.

HOUSING. If you would like to live on campus while attending summer school, West Chester has attractive, well-appointed high-rise residence halls. These are conveniently near Lawrence Center where the dining room, post office and snack bar are located and the new Sykes College Union Building with its well-stocked store, lounges, recreation facilities and snack bar. In addition each dormitory has lounge, TV and recreation areas.

After you have completed scheduling, apply for a room by writing to the Associate Dean of Students Office, Room 206, Sykes College Union. This written application must be received at least one week prior to the beginning of the session for which housing is required. Housing is not available for married students.

FRANCIS HARVEY GREEN LIBRARY. With a collection of more than 320,000 volumes and subscriptions to more than 2,500 journals, West Chester's library is a valuable resource for study and research. The general collection is augmented by an extensive micromedia collection representing an additional 300,000 titles along with facilities for reading this material.

The Special Collections Room houses the Chester County Collection of scientific and historical books; the Normal Collection (historical books on physical education and publications by and about the faculty and alumni); *The Biographies of the Signers of the Declaration of Independence* by John Sanderson; and the Shakespeare Folios.

Other collections of note include a variety of audio-visual materials in the Instructional Materials Center; a comprehensive music library in Swope Hall; the Philips Autographed Book Library housed in a specially designed room in the Philips Memorial Building; and separate collections of children's literature and government documents.

RECREATION SERVICES. For those who like to get away from it all, West Chester has interesting cultural, social, and sports activities in the summer. Recreation Services—the office respon-

sible for meeting the leisure-time needs of summer students—arranges such regular features as excursions to Robin Hood Dell in Philadelphia, Longwood Gardens and professional baseball games.

Recreation equipment is available to summer students. Items for loan range from tennis rackets, baseball equipment, volleyballs, softball bats and balls, to tents and sleeping bags. If you want to shop uptown, or just pedal around and enjoy the scenic beauty of Chester County, you can also borrow a bicycle. The equipment is loaned from Ehinger Gymnasium.

If you like your exercise competitive, there are intramural softball and volleyball leagues for both men and women.

Social programs include dances, student-faculty coffee hours, music programs and a cinema series.

The following facilities are open for informal recreation use: Hollinger Gymnasium (College Avenue), the tennis courts on both North and South Campus, Ehinger Gymnasium, and Recreation Park, behind Sanderson Hall. Swimming will be provided as facilities are available.

For details, phone or see the Coordinator of Recreation Services, South Campus (436-2133).

PLACEMENT SERVICES. The college maintains an active Career Development Center for its students. Notices of opportunities for employment in teaching and other careers are posted regularly, and counseling in career planning is available to all students (See the Graduate Studies Catalog). There is no charge for these services. Location: Lawrence Center.

EMPLOYMENT AND LOANS. If you are interested in part-time or hourly work on campus or in the community, communicate with the director of financial aid to students, Lawrence Center. He is also the person to see for information about loans.

STUDENT HEALTH SERVICE. To meet emergency and first-aid needs and to perform routine infirmary treatment of minor illness and minor surgical conditions, two part-time physicians and a staff of registered nurses are available at no cost to students. Beyond these services, the college does not furnish medical care nor bear the costs of medical or surgical treatment or hospitalization. The community of West Chester has qualified physicians and excellent hospital facilities. The Health Service is in Reynolds Hall.

Summer students may take advantage of a group medical and accident policy, approved by the college and covering them for

the 12 weeks of the summer session, at a minimal premium. See the Health Service.

THE COUNSELING CENTER. The professional counseling and psychological services of the Counseling Center are available to students needing assistance regarding educational, vocational, personal, social and emotional concerns. The counseling psychologists who staff the center are experienced in counseling, personality evaluation and administration of psychological tests. Assistance is provided through both individual and group approaches, depending upon student need. All conversations and test results are confidential. Location: Lawrence Center.

VETERANS' AFFAIRS. West Chester is an accredited college for the education of veterans and maintains an Office of Veterans' Affairs. To apply for benefits, veterans should visit this office, located in the Old Demonstration School.

APPLYING FOR ADMISSION FOR THE ACADEMIC YEAR. The Graduate Office will be glad to give you an application form and a Graduate Preview in which you will find admission requirements as well as information about the college's degree programs.

SUMMER SESSIONS FEES & EXPENSES

Fees are subject to change without notice.

All charges for a session must be paid on the day of registration.

(Unless otherwise specified, fees are paid by check or money order payable to: Commonwealth of Pennsylvania. Your check or money order serves as your receipt.)

Basic Fee (Pennsylvania Residents)

$43 per semester hour of credit.

Basic Fee (Out-of-State Students)

$63 per semester hour of credit.

Housing Fee (Room and Meals)

Regular Session: $190
Pre or Post Session: $90
No reduction for absences of a few days.

Private rooms: $2 extra per week. Charges for individual meals: breakfast 75¢, lunch $1.00, dinner $1.50.

Community Center Fee

$1.00	Pre or Post Session
$2.00	Regular Session

Music Instruction Fee

(Regular Session)

Piano, Organ, Instrument, or Voice—two half-hour lessons per week: $55
Instrument Class or Ensemble: $35

Pipe Organ for Practice

Regular Session: $12
Pre or Post Session: $6
(No charge for piano for practice)

Rental of Band or Orchestral Instruments

Regular Session: $6
Pre or Post Session: $3

Late Registration Fee

The $10 late registration fee is charged to students who register after classes begin.

Refunds

All refund requests must be made **in writing** during the session for which a refund is requested. Contact the Graduate Office, 2nd floor, Old Demonstration School.

Basic Fee Refunds:
Withdrawals during the first week of Pre and Post Sessions—a 50% refund.
Withdrawals during the first and second week of Regular Session—a 50% refund.
There is no refund of the basic fee after the frist week of Pre or Post Session, and after the second week of Regular Session.
The Community Center Fee is not refundable.

ACADEMIC INFORMATION

CREDITS. Credits are usually earned at the rate of one semester hour for each week of summer session. A student attending all three sessions normally earns 12 credits.

West Chester students wishing to carry more than six semester hours in Regular Session must secure permission from their advisors.

WITHDRAWAL FROM A COURSE IN SUMMER SESSION. Students who stop attending classes in which they are enrolled will receive a WP or a WF for the course if they have filed the proper withdrawal forms. In order to withdraw officially from summer session classes, a student must submit a completed summer session withdrawal form to the Graduate Office before the end of that summer session.

WITHDRAWAL FROM THE COLLEGE. A student intending to withdraw completely from the graduate program must give the dean of graduate studies written notice stating the reason for the withdrawal. The student's last day in classes will be considered the student's termination date.

COLLEGE REGULATIONS AND POLICIES. The class-absence policy for the academic year applies in summer.

All academic policies are as noted in the Graduate Studies Catalog.

HOW TO PRE-SCHEDULE, SCHEDULE & REGISTER

PERMITS TO REGISTER for the Summer Sessions will be mailed to all students presently enrolled in graduate courses and to those on the mailing list.

Graduate students may pre-schedule for **any** of the summer sessions between April 13 and May 6, 1977. If you are a new student or did not receive a PERMIT TO REGISTER through the mail, please contact:

The Graduate Office
Room 205
Old Demonstration School
215-436-2243

PLEASE NOTE: You have completed the **Scheduling** process when your PERMIT TO REGISTER, properly completed and bearing **both** your signature and the signature of your advisor, has been returned to the Graduate Office. Improperly signed PERMITS TO REGISTER will be returned to you by the Graduate Office. a **Pre-Scheduling** period (April 13 - May 6) has been established so that the students may complete the scheduling process prior to the registration period and avoid possible delays.

You have completed the **Registration** process only when your records have been entered into the college data bank and when you have paid your bill.

No bills will be mailed to students enrolling in the Summer Sessions. Please consult the calendar printed below to learn how to complete registration for each summer session.

TO PRE-SCHEDULE AND SCHEDULE

1. Contact your advisor, complete your PERMIT TO REGISTER, obtain the necessary signature(s) and sign the card yourself.

Note any restrictions on course enrollment printed in the course listing. If you have any questions, please contact the Graduate Office.

2. Return your signed PERMIT TO REGISTER to the Graduate Office. No bill will be mailed to you.

CALENDAR FOR SUMMER SESSIONS REGISTRATION INFORMATION

April 13 (Wednesday)—May 6 (Friday)

Pre-scheduling for any summer session

June 2 (Thursday)

2 - 6:30 pm Scheduling for Pre-Session only
2 - 7:00 pm Registration for Pre-Session only

If you have pre-scheduled for Pre-Session, go directly to Lawrence Center, get your bill and pay it. If you are a new student or do not have a PERMIT TO REGISTER, report to the Graduate Office in the Old Demonstration School to obtain a PERMIT TO REGISTER, see your advisor, return your signed PERMIT TO REGISTER to the Graduate Office, obtain a business office card, go to Lawrence Center and pay your bill.

June 6 (Monday)

Classes begin
Graduate Office will be open until 7 pm.
The late registration fee of $10 will be assessed all graduate students whose registrations for Pre-Session are processed on or after this date.
Drop & Add Period for Pre Session only

June 23 (Thursday)

Scheduling for Regular Session only
2:00 - 6:30 p.m.

Registration for Regular Session only.
Lawrence Center
2:00 - 7:00 p.m.

If you have pre-scheduled for Regular Session, go directly to Lawrence Center, get your bill and pay it. If you are a new student or do not have a PERMIT TO REGISTER, report to the Graduate Office in the Old Demonstration School to obtain a PERMIT TO REGISTER, see your advisor, return your signed PERMIT TO REGISTER to the Graduate Office, obtain a business office card, go to Lawrence Center and pay your bill.

June 27 (Monday)

Undergraduate registration for Regular Session

June 28 (Tuesday)

Classes begin
Graduate Office open until 7 pm
Drop & Add period for Regular Session only

The late registration fee of $10 will be assessed all graduate students whose registrations for Regular Session are processed on or after this date.

August 4 (Thursday)

Scheduling for Post Session only
2:00 - 6:30 pm
Registration for Post Session only.
Lawrence Center
2:00 - 7:00 pm

If you have pre-scheduled for Post Session, go directly to Lawrence Center, get your bill and pay it. If you are a new student or do not have a PERMIT TO REGISTER, report to the Graduate Office in the Old Demonstration School to obtain a PERMIT TO REGISTER, see your advisor, return your signed PERMIT TO REGISTER to the Graduate Office, obtain a business office card, go to the Lawrence Center and pay your bill.

August 9 (Tuesday)

Classes begin
Drop and Add Period for Post Session only.
The late registration fee of $10 will be assessed all graduate students whose registration for Post Session are processed on or after this date.

Pre Session

Monday, June 6 through Friday, June 24

See the 1976-1977 Graduate Studies Bulletin for course descriptions. NEW, following a course listing indicates a course not previously offered or currently described. Descriptions for these courses appear in this publication beginning on page 35. All offerings listed are contingent upon sufficient enrollment. Semester hours of credit are shown in parentheses following the course title. Classes meet daily, 6:00-9:30 p.m., Monday through Thursday, unless otherwise noted.

Biology

Bio 567—Endocrinology (3) 4:30-7:00 p.m.
Bio 578—Freshwater Invertebrates (3) 4:30-7:00 p.m.

Chemistry

Che 504—Foundations of Nutrition (3) NEW (For M.A. only) 4.30-8:00 p.m.
Che 505—Fundamental Topics in Chemistry (3) Topic: Organic Chemistry or Physical Chemistry (For M.A. only) T B A
Che 515—Topics in Inorganic Chemistry (3) Topic: Industrial Chemistry 4:30-8:00 p.m.
Sci 570—Ethics and Issues in Science (3) NEW (For M.A. only) 8:00-11:00 a.m.

Counselor Education

(Counselor Education Department approval required for all courses)
EdC 503—Introduction to Guidance Services (3)
EdC 567—Group Dynamics (3)
EdC 571—Theories of Counseling (3)
EdC 573—Counseling and Consultative Techniques of Secondary School (3)
EdC 585—Contemporary Issues and Trends in Guidance (3)

Criminal Justice

CrJ 507—Conflicts in the Criminal Justice System (3) 6:15-9:45 p.m. Mon. through Thurs.

Earth Sciences

ESS 519—Field Geology (1-3) See instructor by April 15.
ESS 523—General Geologic Field Studies of Southeastern Pennsylvania (3) 6:00-9:00 p.m.

Elementary Education

(Elementary Education Department approval required for all courses)
EdE 530—Social Studies in Elementary Education (3)
EdE 551—Child Development and Behavior I (3)
EdE 561—Guidance in the Elementary School (3)
EdE 570—Supervision in the Elementary School (3)
EdE 584—Workshop in Early Childhood Education (3)
EdE 695—Seminar in Elementary Education (3)

English

Lit 533—Romantic Poetry and Prose (3)
Lit 542—Comparative Lit. The Greek Myths (3) NEW

Foreign Languages

Lan 502—Second Languages in the Elementary School (3)
Spa 545—The Latin American Novel (3)

Summer Seminars in Foreign Language Education

Three courses in new theories and techniques in foreign language education will be offered during the Pre and Regular Sessions, 1977. For application, communicate with Mr. Ronald L. Gougher, director of summer workshops, Department of Foreign Languages.

Lan 580.01—Individualizing Foreign Language Instruction (3) June 20 through July 1. 9:00 a.m.-5:30 p.m.
Lan 580.02—Curriculum for Individualizing Foreign Language Instruction (2) June 27 through July 1. 9:00 a.m.-5:30 p.m.
Lan 580.03—Real Communication—Humanizing Foreign Language Instruction (2) June 27 through July 1. 9:00 a.m.-5:30 p.m.

Geography and Planning

Geo 540—Geography of the United States (3)

Health, Physical Education, and Recreation*

HEd 542—Human Sexuality in a Changing Society (3)
HEd 569—Addictive Diseases (3)
PEd 505—Learning on the Move (3) NEW
PEd 521—Sports Psychology (3)
PEd 536—Summer Dance Workshop/Effective Projection in Theatre Dance (4) THREE WEEK SESSION: June 13-July 1, Tues. and Thurs., 7:00-10:00 p.m. (see description in "Summer Workshops/Other Special Offerings")
PEd 560—Contemporary Problems in HPER (3)
PEd 562—Administrative and Supervisory Practices in HPER and Athletics (3)
PEd 570—Curriculum in Health and Physical Education (3)
PEd 587—Seminar in the Four-Phase Program of Driver Education (3)

History

(History courses are being re-numbered—consult the department.)

His 524—Studies in the History and Culture of South Asia (India) (3)
His 536—Europe Since 1914 (3)
His 509—Revolutionary America: 1763-1789 (3)

Instructional Media Education

(Instructional Media Department approval required for all courses)

EdM 502—Selection and Effective Utilization of Educational Media (3)
EdM 505—The Motion Picture in Education (3)
EdM 519—Library Science (3)
EdM 590—Internship Program in Educational Media (2)

Mathematical Sciences

MtE 507—Current Trends in Teaching Mathematics (3)
MtE 564—Individualizing Instruction in Secondary School Mathematics (3)
ISS 505—Experiences in the Metric System (1) June 20-June 24, 6:30-9:15 p.m.

Music**

Mus 517—Psychology of Music (3)

Philosophy

Phi 520—Philosophy of Mind (3)

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*SCHOOL OF HEALTH, PHYSICAL EDUCATION, AND RECREATION
All Permits to Register must be signed by Dr. Edward Norris
Telephone Advisement and Scheduling (436-2260)
Monday April 18 9-11 am
Tuesday April 26 2- 4 pm
In person scheduling and advisement
Monday May 2 4- 6 pm
Tuesday May 3 6- 8 pm

**SCHOOL OF MUSIC
Counseling by telephone or office appointment. Call or write Dr. Singleton, 8:00 am-4:30 pm., April 18-May 6, Swope Hall, Room 1J, phone 436-2539. ALL PERMITS TO REGISTER must be signed by Dr. Singleton.

Psychology

Psy 505—Advanced General Psychology (3) 5:00-8:30 p.m., Mon. through Thurs.
Psy 507—Advanced Child Psychology (3) 5:00-8:30 p.m., Mon. through Thurs.
*Psy 600—Research Report (2) TBA
*Psy 610—Thesis (3) TBA
Psy 615—Practicum (2-6) TBA
Psy 620—Practicum in School Psychology (15) NEW TBA

Reading

(Reading Department approval required for all courses)

EdR 510—Foundations of Reading Instruction (3) 4:30-7:00 p.m.
EdR 521—Reading Clinic Practicum and Seminar I (3) 4:30-7:00 p.m.
EdR 540—Seminar in Reading (3) 4:30-7:00 p.m.

*Require Departmental Permission

Secondary Education and Professional Studies

EdF 500—Methods and Materials of Research in Education (3)
EdF 510—Educational Foundations (3) Section 01, Section 02, Section (03)
EdF 523—Education Behind the Iron Curtain (3)
EdF 590—School Law (3)
EdP 560—Behavior Modification (3)

Speech Pathology and Audiology

SpP 506—Equipment Workshop (3) NEW (see description in "Workshops/ Other Special Offerings")

Regular Session

Tuesday, June 28 through Friday, August 5

See the 1976-1977 Graduate Studies Bulletin for course descriptions. NEW, following a course listing indicates a course not previously offered or currently described. Descriptions for these courses appear in this publication beginning on page 35. All offerings listed are contingent upon sufficient enrollment. Semester hours of credit are shown in parentheses following the course title. Classes meet each weekday during Regular Session except July 4.

Art

8:00-9:30 am

Art 546, 590—Drawing: Independent Projects (3)
*Art 531, 532, 533, 534, 590—Ceramics Workshop (3)

11:00 am-12:30 pm

*Art 531, 532, 533, 534, 590—Ceramics Workshop (3)
*Art 565—Weaving Workshop (3)

*See "Summer Workshops/Other Special Offerings" for explanation of studio workshops

Biology

8:00-9:30 am

Bio 528—Animal Histology (3)

9:30-11:00 am

Bio 500—Materials and Methods of Biological Research (2)

11:00 am-12:30 pm

Bio 566—Physiology of Plants (3) Lab 1-3 p.m., Tues. and Thur.

MINI-COURSES IN BIOLOGY

Each of these field courses meets Mon. through Fri. from 9:00 a.m. to 12:00 noon and from 1:00 to 3:00 p.m.

July 18 through July 22:

*Bio 516—Summer Wildflowers (1)

July 25 through July 29:

*Bio 515—Common Trees (1)

August 1 through August 5:

*Bio 512—The Living Forest (1)

*see descriptions in "Summer Workshops/Other Special Offerings"

Chemistry

8:00-9:30 am

Che 503—Chemistry of the Environment (3)

9:30-11:00 am

Che 505—Fundamental Topics in Chemistry (3) Topic: Quantitative analysis, biochemistry, or physical chemistry (for M.A. only)
Che 513—Principles of Geochemistry (3)
Che 590—Independent Study in Chemistry (Variable) (1-6)
Che 610—Thesis/Research (6)
SCI 570—Ethics and Issues in Science (3) NEW (for M.A. only)

11:00 am-12:30 pm

Che 508—Industrial Pollution (3)

4:30-6:00 pm

Che 531—Organic Reaction Mechanisms (3)

Counselor Education

(Counselor Education Department approval required for all courses)

8:00-9:30 am

EdC 556—Career Development Theories and Practices (3)
EdC 571—Theories of Counseling (3)
EdC 572—Counseling and Consultative Techniques of Elementary School (3)

9:30-11:00 am

EdC 503—Introduction to Guidance Services (3)
EdC 520—Counseling for Human Differences (3)
EdC 567—Group Dynamics (3) Section 01
EdC 578—Counseling Techniques with Adults (3)

11:00 am-12:30 pm

EdC 540—Assessment Methods in Guidance (3)
EdC 567—Group Dynamics (3) Section 02
EdC 590—Practicum in Elementary Guidance and Counseling (3)
EdC 591—Practicum in Secondary Guidance and Counseling

Criminal Justice

9:30-11:00 am

CrJ 542—Interviewing and Counseling the Offender (3) (also Swo 542) (previously One to One Counseling)

Earth Sciences

8:00-9:30 am

ESS 510—Principles of Physical Geology (4) Lab 1-3 Tues. and Thurs.
ESS 580—Astronomy in England (3) NEW (includes two week field trip to England) Must have permission of instructor.

9:30-11:00 am

ESS 526—Geology of Petroleum (1-3)
ESS 540—Introduction to Meteorology (3)
ESS 581—Geology of England (3) NEW (includes two week field trip to England) Must have permission of instructor.
ScE 500—Modern Trends in Science Education (3)

11:00 am-12:30 pm

ESS 521—Geology in the Elementary School (3)
ESS 595—Elementary School Science Instruction (3)

Elementary Education

(Elementary Education Department approval required for all courses)

8:00-9:30 am

EdE 549—Theory and Trends in Language Arts (3)
EdE 551—Child Development and Behavior I (3)
EdE 553—Child Development and Behavior II (3)
EdE 582—Curriculum and Research in the Social Studies (3)

9:30-11:00 am

EdE 543—Creative Expression in Elementary School (3)
EdE 548—Curriculum Theory and Trends in Elementary Education (3)
EdE 560—Meeting Individual Needs of Children (3)
EdE 565—Classroom Management (3)

11:00 am-12:30 pm

EdE 504—Early Child Education Programs (3)
EdE 522—Teaching in the Communication Skills (3)
EdE 556—Seminar in Human Development (3)
EdE 581—Workshop in Open Education (3)
EdE 583—Workshop in Creativity (3)

6:00 pm

EdE 561—Guidance in the Elementary School (3) June 27 through July 15

English

8:00-9:30 am

Eng 501—Modern Techniques for Teaching English (3)
Lit 607—Major Renaissance Writers (3)

9:30-11:00 am

Eng 515—Structure of Modern English (3)
Lit 550—Literature for the Elementary School (3)
Lit 632—Seminar: Hemingway and Faulkner (3)

11:00 am-12:30 pm

Eng 538—Modern British Poetry (3) NEW

Foreign Languages

8:00-9:30 am

Lan 585—Seminar in Puerto Rican Language and Culture (3)

9:30-11:00 am

Lan 511—Roman Civilization (3) NEW
Spa 533—Generation of 1898 (3)

11:00 am-12:30 pm

Lan 505—Introduction to Bilingual/Bicultural Education (3) NEW
Lan 590—Independent Studies: French (3)
Spa 510—Advanced Spanish Phonetics (3)

Summer Seminars in Foreign Language Education

For information and registration procedures see Pre Session.

Geography and Planning

9:30-11:00 am

Geo 546—Geography of the Soviet Union (3)

11:00 am-12:30 pm

Geo 584—Modern Techniques of Teaching Geography (3)

6:00-10:00 pm

Geo 524—Geography of Population (3) Mon. and Wed.

Health, Physical Education, and Recreation*

8:00-9:00 am

PEd 500—Methods and Materials of Research and Health and Physical Education (2)

8:00-9:30 am

HEd 572—Consumer Education (3) NEW
PEd 520—Scientific Principles of Coaching (3)
PEd 530—Scientific Bases for Physical Education (3)
PEd 572—The Child and Physical Education (3)

9:30 am

PEd 591—Research Project Seminar I (2)
PEd 592—Research Project Seminar II (1)
PEd 593—Thesis Seminar (2)
PEd 610—Thesis (4)

9:30-11:00 am

HEd 544—Principles of Curriculum and Instruction in Health Education (3)
PEd 502—Elementary Physical Education Workshop (3)
PEd 550—Historical and Philosophical Bases for Health and Physical Education (3)
PEd 561—Techniques of Measurement and Evaluation in Health and Physical Education (3)
PEd 564—Biodynamics of Human Performance (3)

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*SCHOOL OF HEALTH, PHYSICAL EDUCATION, and RECREATION

All Permits to Register must be signed by Dr. Edward Norris
Telephone Advisement and Scheduling (436-2260)
Monday April 18 9-11 am
Tuesday April 26 2- 4 pm
In person scheduling and advisement
Monday May 2 4- 6 pm
Tuesday May 3 6- 8 pm

11:00 am-12:30 pm

HEd 540—School Health Problems (3)
PEd 510—School and Community Recreation (3)
PEd 534—Modern Principles of Athletic Training (3)
PEd 571—Comparative Physical Education (3)

6:00-9:45 pm

PEd 581—Contemporary Practices and Program Evaluation in Safety Education (3) June 28 through July 14, Mon. through Thurs.
PEd 584—Seminar in Motorcycle Safety Education (3) July 18 through August 4, Mon. through Thurs.

History

(History courses are being re-numbered—consult the department.)

8:00-9:30 am

His 513—Emergence of Modern America: 1876 - 1923 (3)

9:30-11:00 am

His 500—Methods and Materials of Research in History (3)
His 529—Contemporary History of the Middle East (3)

9:30 am-12:30 pm

SSc 502—Methods and Materials for Teaching Social Studies: Workshop in World Cultures (6)

11:00 am-12:30 pm

His 525—Studies in the History and Culture of East Asia (3)

Workshop

*SSC 580—Ethnic Culture Workshop (3)

*see descriptions in "Summer Workshops/ Other Special Offerings"

Instructional Media Education

(Instructional Media Department approval required for all courses)

8:00-9:30 am

EdM 502—Selection and Effective Utilization of Educational Media (3)
EdM 520—Designing Instructional Materials (3)
EdM 526—Intermediate Photography (3)

9:30-11:00 am

EdM 522—Production of Non-Projected and Projected Materials (3)
EdM 555—Learning Theories Related to Educational Media (3)
EdM 560—Organization and Administration of the Educational Media Program (3)

11:00 am-12:30 pm

EdM 525—Basic Photography (3)
EdM 529—Instructional Use of the 8mm Motion Picture Camera (3)

Mathematical Sciences

8:00-9:30 am

Mat 512—Modern Algebra (3)
MtE 501—Fundamental Concepts of Mathematics I (3)
MtE 508—Topics in Mathematics Education (3)
MtE 569—Seminar for the Elementary School Mathematics Teacher (3) (Mathematics for the Gifted Elementary Student)

9:30-11:00 am

Mat 541—Advanced Calculus (3)
Mat 581—Methods of Applied Mathematics (3)
MtE 558—Teaching Mathematics in the Junior High School (3)
CSc 501—Introduction to Computer Programming (3)
CSc 595 (01)—Topics in Computer Science (3) (Introduction to Computer Graphics)

11:00 am-12:30 pm

Mat 535—Topology (3)
MtE 568—Seminar for the Secondary School Mathematics Teacher (3) (Mathematics for the Gifted Secondary School Student)
CSc 595 (02)—Topics in Computer Sci-

ence (3) (Computer Hardware and Logic)

Mini-Courses in Mathematics

Each of these courses meets from 1:00 to 3:45 p.m.

July 11 through July 15

ISS 505 (01)—Experiences in the Metric System (1) NEW

July 18 through July 22

ISS 505 (02)—Experiences in the Metric System (1) NEW

July 25 through July 29

ISS 506—Metrics for Classroom Use (1) NEW

Music*

8:00-9:30 am

Mus 502—Aspects of Musical Style II (3)
Mus 526—Intermediate Kodaly Techniques (3)
Mus 600—Instrumental Literature (3)
Mus 605—Vocal Literature (3)
Mus 636—Contemporary Music (3)

9:30-11:00 am

Mus 500—Methods and Materials of Research (3)
Mus 503—Philosophical Foundations of Music Education (3)
Mus 547—Piano (3) (Elementary Teachers)
MaB 558—Master Class Brass (2)
Mus 606—Choral Literature (3)
Mus 623—Bach and His Works (3)

11:00 am-12:30 pm

Mus 501—Aspects of Musical Style I (3)
Mus 510—Current Trends in Music Education (3)
Mus 592—Marching Band Techniques and Materials (3)
Mus 601—Baroque Keyboard Literature (3)

*SCHOOL OF MUSIC
Counseling by telephone or office appointment Call or write Dr Singleton, 8:00 am-4:30 pm , April 18-May 6, Swope Hall, Room 11, phone 436-2539 ALL PERMITS TO REGISTER must be signed by Dr Singleton

12:30-2:00 pm

Orc 542-545—Orchestra (1)
WwC 548-549—Class Lessons in Woodwinds (2)
Mus 556-557—Advanced Choral Conducting (2)
Mus 608—Brass Literature (3)

2:00-3:00 pm

Cho 542-545—Chorus (1)

3:00-4:00 pm

Bnd 542-545—Band (1)

By Appointment

Mus 559-560—Private Instruction, *Minor Level (1)
Mus 561-564—Private Instruction, *Major Level (1)
Mus 565-569—Private Instruction, *Advanced (2)
(*Piano, Voice, Orchestral Instruments)
Mus 691—Research Seminar in Music (2)
Mus 692—Research Seminar in Music (1)
Mus 696—Recital (1)
Mus 697—Recital (2)
Mus 698—Research Report (2)
Com 699—Musical Composition (3)
Mus 699—Thesis (3)

Workshops

Mus 520—Music Education Workshop July 18-July 22 (see description in "Summer Workshops/Other Special Offerings")

Physics

11:00 am-12:30 pm

PhS 513—Modern Physics (3)

Psychology

6:00-9:30 pm

Psy 506—Theories of Learning (3) Tues. and Thurs.
Psy 512—Psychology of Personality (3) Mon. and Wed.
Psy 517—Introduction to Psychopathology (3) Mon. and Wed.
Psy 527—Behavior Modification (3) Mon. and Wed.

Psy 544—Individual Psychometric Techniques (3) Tues. and Thurs.
Psy 549—Introduction to Projective Techniques and Personality Testing (3) Tues. and Thurs.

T B A

*Psy 600—Research Report (3)
*Psy 610—Thesis (2)
Psy 615—Practicum (2-6)
Psy 620—Practicum in School Psychology (15)
*Requires departmental permission

Reading

(Reading Department approval required for all courses)

9:30-11:00 am

EdR 511—Current Practices in Teaching Developmental Reading (3)
EdR 516—Reading Disabilities (3)
EdR 541—Organization and Operation of Reading Programs K-12 (3)

11:00 am-12:30 pm

EdR 522—Reading Clinic Practicum and Seminar II (3)
EdR 526—Reading Readiness and Early Childhood Educational Experiences (3)

Secondary Education and Professional Studies

8:00-9:30 am

EdF 500—Methods and Materials of Research (3)
EdF 500—Methods and Materials of Research for Counselor Education Majors (3) Section (01)
EdF 501—Methods and Materials of Research for Elementary Education Majors (3)
EdF 503—The Emerging Curriculum (3)
EdF 510—Educational Foundations (3) Section 01, Section 02
EdP 550—Psychological Foundations of Education (3)
EdS 524—Supervision of Student Teaching (3)

9:30-11:00 am

EdF 500—Methods and Materials of Research (3) Section 02
EdF 504—Middle School Workshop (3)
EdF 505—Individually Prescribed Instruction (3)
EdF 510—Educational Foundations (3) Section 03, Section 04
EdF 521—Contemporary British Education (3)
EdP 557—Essentials of Learning (3)
EdP 569—Adolescent Development and Learning (3)
EdU 501—Curricular Adaptations for the Disadvantaged (3)

11:00 am-12:30 pm

EdF 500—Methods and Materials of Research (3) Section 03
EdF 507—Values Clarification in Human Relations (3)
EdF 509—Contemporary Teaching Trends (3)
EdF 510—Educational Foundations (3) Section 05
EdF 516—Resource Allocation in the Schools (3) NEW
EdF 580—History of American Education (3)
EdP 550—Psychological Foundations of Education (3)
EdS 506—The Junior High School (3)

6:00-9:30 pm

EDF 500—Methods and Materials of Research in Education (2) Section 04 Mon. and Wed.
EDF 510—Educational Foundations (3) Section 06 Tues. and Thurs.

Social Welfare

9:30-11:00 am

Swo 543—Social Rehabilitation of the Offender (3) (also CrJ 543)

Special Education

8:00-9:30 am

EdA 541—Psychology of Exceptional Children (3)

8:00 am-noon

EdA 540—Workshop in Special Education (4) Permission of the instructor required. (see description in "Summer Workshops/Other Special Offerings")

Speech Communication and Theatre

9:30-11:00 am

SpC 525—Communication in the Classroom: Models and Approaches (3)

11:00 am-12:30 pm

Summer Drama Workshop (see description in "Summer Workshops / Other Special Offerings")

Speech Pathology and Audiology

8:00-9:30 am

SpP 532—Advanced Audiometry (3)

8:30-10:30 am

SpP 560—Graduate Clinical Practicum (1) Section 01, Section 03

9:30-11:00 am

SpP 500—Survey of Speech Disorders (3) Open to non-majors.

SpP 525—Advanced Diagnostic and Therapeutic Methods in Speech Pathology (3)

10:30 am-12:30 pm

SpP 560—Graduate Clinical Practicum (1) Section 02, Section 04

11:00 am-12:30 pm

SpP 510—Articulation Disorders (3)

T B A

SPP 560—Graduate Clinical Practicum (1) Section 05, Section 06. (Students in these two sections must register for three credits.)

Post Session

Tuesday, August 9 through Friday, August 26

See the 1976-1977 Graduate Studies Bulletin for course descriptions. NEW, following a course listing indicates a course not previously offered or currently described. Descriptions for these courses appear in this publication beginning on page 35. All offerings listed are contingent upon sufficient enrollment. Semester hours of credit are shown in parentheses following the course title. Classes meet 8:00-9:30 and 10:30-noon, Monday through Friday during Post Session unless otherwise noted.

Art

*Art 521, 522—Sculpture Workshop (3)
*Art 531, 532, 533, 534, 590—Ceramic Workshop: Raku (3) 6:00-9:30 p.m., Mon. through Thurs.
*see "Summer Workshops/Other Special Offerings" for explanations of studio workshops.

Biology

Bio 510—History of Biology (3)

Counselor Education

(Counselor Education Department approval required for all courses).
EdC 520—Counseling for Human Differences (3)
EdC 567—Group Dynamics (3)
EdC 575—Group Procedures in the Elementary School (3)
EdC 585—Contemporary Issues and Trends in Guidance (3)

Criminal Justice

CrJ 563—International Criminality (3) NEW 4:15-7:45 p.m.

Earth Sciences

ESS 520—Geology of National Parks (southwest) (4) NEW Must have permission of instructor.
ESS 530—Principles of Oceanography (3) Must have permission of instructor.

Elementary Education

(Elementary Education Department approval required for all courses).

EdF 522—Teaching the Communication Skills (3)
EdE 544—Open Education in the Elementary School (3)
EdE 580—Workshop in Elementary Education (3)
EdE 582—Workshop in Social Studies (3)

English

Lit 536—20th Century Drama (3)

Geography and Planning

*Geo 571—Conservation Workshop (3)
*Geo 591—Field Studies (Bermuda) (3)
*see descriptions in "Summer Workshops/Other Special Offerings"

Health, Physical Education, and Recreation*

HEd 567—Sociological Bases for Health (3)
PEd 531—Adapted Physical Education (3)

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*SCHOOL OF HEALTH, PHYSICAL EDUCATION, AND RECREATION

All Permits to Register must be signed by Dr Edward Norris
Telephone Advisement and Scheduling (436-2260)
Monday April 18 9-11 am
Tuesday April 26 2- 4 pm
In person scheduling and advisement
Monday May 2 4- 6 pm
Tuesday May 3 6- 8 pm

History

(History courses are being re-numbered—consult the department.)
His 519—The Indian in America's Past (3)

Instructional Media Education

(Instructional Media Department approval required for all courses).

EdM 522—Production of Non-Projeced and Projected Materials (3)
EdM 533—Television in Education (3)
EdM 563—Field Study in Educational Media (3)

Mathematical Sciences

MtE 563—Use of Mathematics Laboratory in the Secondary School (3)
CSc 550—Computers in Education (3)

Music*

Mus 530—Classroom Guitar Pedagogy (3) NEW
Mus 556-557—Advanced Instrumental Conducting (3)

Workshops

*Mus 592—Marching Band Techniques and Materials (3) "Marching Band Conference and Workshop" August 8 through August 12
Mus 680—Jazz Studies Workshop (2-3) Secondary (3) 8:30 a.m.-11:30 a.m.
*see descriptions in "Summer Workshops/Other Special Offerings"

*SCHOOL OF MUSIC
Counseling by telephone or office appointment Call or write Dr Singleton, 8:00 am-4:30 pm , April 18-May 6, Swope Hall, Room 11, phone 436-2539 ALL PERMITS TO REGISTER must be signed by Dr Singleton

Psychology

Psy 524—Psychometrics (3) 5:00 - 8:30 p.m., Mon. through Thurs.
Psy 559—Psychotherapy (3) 6:00-9:30 p.m., Mon. through Thurs.
*Psy 600—Research Report (2) TBA
*Psy 610—Thesis (3) TBA
Psy 615—Clinical Practicum (2-6) TBA
Psy 620—Practicum in School Psychology (15) NEW TBA

*Require departmental permission

Reading

(Reading Department approval required for all courses).

EDR 515—Reading in the Content Areas: Secondary (3) 8:30 am-11:30 am

Secondary Education and Professional Studies

EdF 510—Educational Foundations (3) Section 01, Section 02
EdO 511—Environmental Outdoor Education Workshop (3) NEW (see description in "Summer Workshops/Other Special Offerings")
EdS 502—Secondary School Curriculum (3)

Special Education

(Special Education Department approval is required).

EdA 571—Childhood Learning Disabilities (3)

Speech Pathology and Audiology

SPP 520—Seminar in Speech Pathology (3) Consult department for topic.

SUMMER WORKSHOPS / OTHER SPECIAL OFFERINGS

Art

Studio Workshops
All three sessions

A number of workshops, open in nature, in sculpture, painting, weaving, ceramics and drawing are offered through all three sessions. They are for beginners as well as the more experienced. Scan the course listings for details.

Biology

Mini-Courses in Biology
Regular Session

Enthusiastic response to West Chester's mini-courses in biology has resulted in more of these one-week sessions being offered this year. Nature lovers of all age groups and varying levels of proficiency will enjoy the many field trips to observe and learn about the many species of plants and birds native to the local area. Planned to be both entertaining and educational, each course will meet for five days from 9:00 a.m. to 12:00 noon and from 1:00 p.m. to 3:00 p.m.

July 18 through July 22	How to Identify Common Summer Flowers of Southeastern Pa. (Bio 516)
July 25 through July 29	How to Identify Common Trees of Southeastern Pa. (Bio 515)
August 1 through August 5	The Living Forest. A study of the major components and structures of the forest ecosystem. (Bio 512)

Each course carries one credit.

Geography and Planning

Conservation Workshop for Teachers (Geo 571)
Post-Session

Sponsored jointly by the Department of Geography and Planning, and the Brandywine Valley Association, the workshop investigates selected techniques of resource-conservation and resource man-

agement in the general environs of southeastern Pennsylvania, and evaluates the place or contribution of these techniques in the over-all scheme of regional planning.

Off-campus visitations, and discussions with actual practicioners, rather than classroom lectures, constitute the experiential bases for student learning.

For further information about the Workshop, or scholarship monies available from the Brandywine Valley Association, contact Charles W. Grassel, Chairman, Department of Geography and Planning (436-2940, 436-2343) (3 credits shown under Post-Session).

Field Studies: Study Tour to Bermuda (Geo 591)

August 8 through August 25

The Department of Geography and Planning is sponsoring a study tour to the islands of Bermuda. Students will take field trips throughout the islands via bus and boat, including visits to the undersea gardens to observe sponges and other sea life, a trip to historic St. George, a walking tour of Hamilton, and a visit to the Biological Station and NASA. Accommodations will be at the Hotel Bermudiana, a first class hotel near downtown Hamilton with breakfast and dinner included daily. The group will leave Phila. via jet on August 10 and return August 18. Three undergraduate or graduate credits will be offered for the course which is open as an elective to all interested students. Approximate cost is $600 plus tuition. A paper is required. For additional information contact Dr. George Langdon, 409C Anderson Hall, phone 436-2363.

Health, Physical Education and Recreation

Summer Dance Workshop/Effective Projection in Theatre and Dance (PEd 536)
June 13 through July 1

This three-week course will be conducted on Tues. and Thurs. from 7:00 to 10:00 p.m. on one of the stage areas of the college by Dr. Charles B. Smith. It will include the development of dance from the studio to the stage, emphasizing staging, lighting, costuming, make-up, and the projection of the dramatic idea in movement. The workshop will culminate in a public performance which will include workshop participants assisted by members of the theatre dance group.

History

Methods and Materials for Teaching Social Studies: Workshop in World Cultures (SSc 502)

The workshop is designed to create an open-ended approach to the

study of world cultures; the participants select areas of concentration based on the needs of their school districts.

The structure of the workshop combines in-depth studies with the development of an interdisciplinary approach to the subject matter. A culminating component will be the comparison of the cultural areas within the framework of contemporary global perspectives. Resource materials, instructional media, teaching strategies and resource people will be available.

For information, please contact Mr. Harold Shaffer, Department of History, 436-2658.

Ethnic Cultures Workshop (SSc 580)
July 11 - July 22

This workshop considers the traditions, customs, present societal status, and contributions to American life of many ethnic groups. The guest-lectures and special programs are designed to increase the students' knowledge of the multicultural nature of American

society today. Projects, specifically tailored to the students' individual needs, are directed by a faculty member of the Ethnic Studies Committee of West Chester State College. In 1977 the Workshop will be devoted to "Current Development and Materials in the Black Experience." Classes will meet from 9:30 to 11:00 a.m. and from 1:00 to 3:30 p.m.

Music

Jazz Studies Workshop (Mus 680)

August 15 - August 19

Nationally-known jazz artists will offer classes in stage band direction, contemporary improvisation, arranging, and the pedagogy of improvisation. Designed primarily for anyone who is or will be involved with some type of jazz activity in the public schools, the workshop will accommodate those with little or no experience to those already actively involved in this field. Optional graduate credits available at regular fees. Two credits: five days. Three credits: five days plus arranging or improvisation project. For further information concerning the workshop and its faculty, contact Mr. James Sullivan, School of Music (Phone: 436-2678)

Marching Band Conference and Workshop (Mus 592)

August 8 - August 12

Designed primarily for high school and college directors and students, this conference is sponsored by the West Chester State College Marching Band and the School of Music. Offerings include flag, rifle and twirling instruction for both intermediate and advanced sections; clinics in intermediate and advanced percussion; separate workshops for students and directors. Outstanding authorities will participate. The course may be taken without credit or as Mus 592—Marching Band Techniques and Materials for 3 credits. For information about this eighth annual band event, contact Dr. James R. Wells, Marching Band Director, School of Music, phone: 436-2495.

Music Education Workshop (Mus 520)

July 18 - July 22

The workshop will include intensive examination and utilization of *Silver Burdett Music* books and materials for the classroom teacher. Participants will select the level of classroom music best suited to their needs. The focus of instruction will be on innovative and creative ways of teaching the basic skills and concepts of music. Instructors will include *Silver Burdett Music* authors and consultants. The course may be taken for three credits.

Secondary Education

Environmental (Outdoor) Education Workshop (EdO 511)

Post Session

While participants in the Environmental Education Workshop put in their fair share of hard work, any description of the program still reads more like a wilderness vacation brochure than a course offering. A field-centered learning experience, the workshop includes camping trips, several days at the Ohio Pyle State Park area for a study of flora and fauna and a day of white-watering; and a field investigation of the Wild Waterfowl area near Lebanon. Staff from the Pennsylvania Fish Commission and the Pennsylvania Game Commission take part in some of the field expeditions, and there is other interaction with various problems. Designed to integrate the wide range of backgrounds and interests among the participants, this workshop provides credit toward certification, may be taken as an elective or may be taken on an auditor's basis. For further information, call or write Mr. John Holingjak, Coordinator of Environmental Education, West Chester State College, West Chester, Pa. 19380, or phone (215) 436-2791. (3 credits)

Special Education

Workshop in Special Education (EdA 540)

Regular Session

The summer workshop in special education is an intensive six week course which has as its primary focus direct teaching contact with mentally and/or physically handicapped students. Participants work with handicapped students four days each week, with the fifth day reserved for field trips and meetings with consultants and speakers. A typical day starts with an academic instructional period of one hour, followed by a two hour period working with handicapped children, and then a short period summarizing the morning's activities. This summer the workshop will be held for the 16th year and like all the others will be held at an off-campus school for the handicapped. The majority of students who enroll are special education teachers working for certification. For these students, the workshop is equivalent to two required courses in the certification sequence. A growing number of participants are regular class teachers and other professionals interested in the practice of mainstreaming handicapped children or otherwise simply interested in an exploratory experience in the field of special education.

Speech Communications and Theatre

Summer Drama Workshop (Tha 550)
Regular Session

An intensive combination of formal classroom instruction and applied production experiences. Seminar sessions will be held daily at 11:00 a.m. with production applications each afternoon and evening. A different topic will be covered each week. Productions will include both plays for adults and for children. Students may earn from 1-6 credits.

Speech Pathology and Audiology

Equipment Workshop (SpP 506)

Evaluation selection, use, and maintenance of electronic aids for the speech and hearing clinician. Demonstrations of equipment for diagnosis, therapy and classroom use. Students will have ample opportunity to work with tape recorders, auditory trainers, and special-purpose equipment during laboratory periods. Care and treatment, trouble-shooting, and calibration techniques also will be included.

NEW COURSE DESCRIPTIONS

Below are brief discriptions of summer offerings not described in the 1976-1977 issue of the Graduate Studies Bulletin. For further information, contact the appropriate department. The listing is alpha-numerical by course prefix and number.

Che 504 Foundations of Nutrition (3)

Proteins, lipids, fats, vitamins, and minerals and their role in normal metabolism; nutrition and disease; metabolism and biochemical individuality; cultural and political aspects of nutrition. (Not for M.S. in Chemistry)

CrJ 563 International Criminality (3)

A general review and analysis of criminal conduct and the official system of response to that conduct. Comparisons made up of the causes and effects in various non-U.S. situations with special emphasis on Japan and Israel. Independent reading and study coordinated with class presentations.

EdF 516 Resource Allocation in the Schools (3)

The relationship between the American economy and the efficient allocation of resources, within school systems will be examined. Designed for teachers, administrators, school board members, and parents. Offered in summer.

EdO 511 Environmental (Outdoor) Education Workshop (3)

An environmental education workshop designed to develop the knowledge and skills by which college students and in-service teachers can generate and conduct action projects to protect the environment.

ESS 520 Geology of the National Parks (4)

The study of selected geologic areas by means of observing the exposed geology in a number of National Parks located in the region. On successive years different areas will be studied. Prerequisites: physical geology, historical geology and approval of instructor.

Eng 538 Modern British Poetry (3)

The course will provide both historical and critical information about the period convered, and investigate, in considerable detail, the chief works of several important poets: Auden, Eliot, Hardy, Hopkins, and Yeats, for example.

HEd 572 Consumer Education (3)

Consumer related problems of individual and society. Consumerism, cost and delivery of health services, and the effect on individual and societal health. Consumerism and the law.

ISS 505 Experiences in the Metric System (1)

For teachers with little or no experience in metric measurement providing an environment in which to "think metric". Concentration on basic units of metric measurement with teaching techniques, A-V aids, games and other classroom activities.

ISS 506 Metrics for Classroom Use (1)

A workshop for teachers already familiar with the metric system. Classroom activities including games, experiments, projects and individualized learning pacs will be developed.

Lan 505 Introduction to Bilingual/Bicultural Education (3)

Introduction to history, philosophy, current status, and future directions of Bilingual/Bicultural Education. Survey of materials, tests, techniques, instructional processes and instructional patterns. Over-view of testing, placement, and pupil evaluation.

Lan 511 Roman Civilization (3)

Roman civilization and its influences on Europe.

Lit 542 Comparative Literature: The Greek Myths (3)

The function and purpose of the Greek myths and their treatment in Western literature, stressing the methods and perspectives of a comparative approach to the study of literature.

Mus 530 Classroom Guitar Pedagogy (3)

Analysis and experience in pedagogical approaches for the music classroom teacher where guitar is part of the music curriculum. Exploration of alternative approaches used in teaching large or small groups. Performance at indicated levels commensurate with ability in solo and/or ensemble.

PEd 505 Learning on the Move (3)

Movement education and perceptual motor theory. Activities to guide children to maximal development potential.

Psy 620 Practicum in School Psychology (15)

Is designed for students working on certification in school psychology other than in the Commonwealth of Pennsylvania. Clinical experience under supervision in the areas of mental retardation and socially and emotionally maladjusted. A minimum of 3 hours and a maximum of 6 shall be spent in a public school setting. A minimum of 3 hours shall be at a mental health clinic. The remaining hours may be at a hospital or at a private or public school for exceptional children.

Sci 570 Ethics and Issues in Science (3)

The course will be an attempt to clearly illustrate the impact of scientific and technological change on human thought and values and upon the structure of society. The ethical, sociological and psychological aspects of such change will be heavily stressed.

SpP 506 Equipment Workshop (3)

Evaluation, selection, use, and maintenance of electronic aids for the speech and hearing clinician.

FOR MORE INFORMATION . . .

If West Chester State College appeals to you, and you would like to know more about either our graduate or undergraduate programs, please complete the appropriate coupon below and send to the school for a copy of the catalog you wish. We'll be happy to send it to you.

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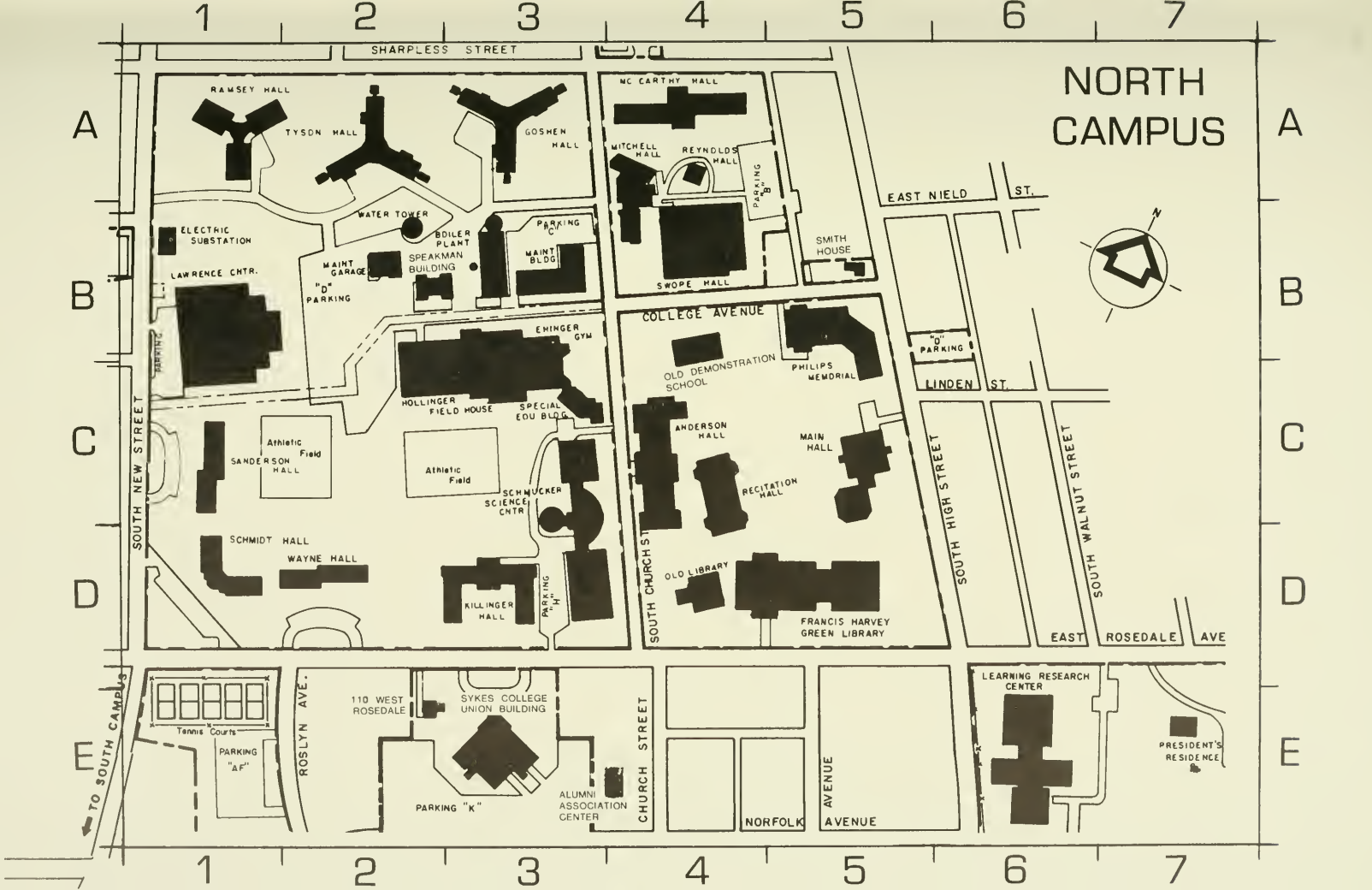
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